The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 649.---Vol. XVIII. LONDON, SATURDAY, JANUARY 29, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

HODGE *v.* KIRKMAN.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date the 6th day of December last, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS upon and belonging to ALVIGGAN MINE, in the parishes of ST. STEPHENS, in Bramwell, and ST. MEWAN, within the said Stannaries, under the direction of the Registrar of the Court; and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree;

Notice is hereby given, that, pursuant to the said Order or Decree, a PUBLIC AUCTION will be HOLDEN at ALVIGGAN MINE aforesaid, on Thursday, the 3d day of February next, at Eleven o'clock in the forenoon, for SELLING, either together or in lots, the

UNDERMENTIONED

MINING MACHINERY AND MATERIALS—Viz.: 1

ONE 36-inch cylinder PUMPING-ENGINE, 8 ft. stroke, with one boiler, about 9 tons, and 4 fathoms of iron-rod.

ONE 10½-inch cylinder STAMPING-ENGINE, with 24-heads of stamps, boiler, and 2 axles and frames, shears, iron winch, 12 10-inch pumps, working barrel, windbore, doorpiece, iron flat-rods, man engine, 15 fathoms bucket-rods, weighing machine, iron weights, smith's vice, carpenter's bench, iron and wood blocks, iron yokes, new and old tin sacks, and the whole of the ACCOUNT-HOUSE FURNITURE.

For viewing the same, application may be made to Mr. M. Teague, on the mine; and for further particulars (if by letter, pre-paid) to Mr. H. S. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, Jan. 25, 1848.

Stannaries of Cornwall—In the Vice-Warden's Court.

HILL *v.* VIGURS,

IN THE MATTER OF THE ROYAL POLBEROU MINES,

OTHERWISE THE ST. AGNES CONSOLIDATED MINES.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date on the 26th day of August, 1846, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, MATERIALS, and EFFECTS upon and belonging to the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES, in the parish of ST. AGNES, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the said Order or Decree,

Notice is hereby given, that, pursuant to the said Order and Decree, a PUBLIC AUCTION will be HOLDEN at the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES aforesaid, on Tuesday, the 15th day of February next, and following days, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned 2

MINING MACHINERY AND MATERIALS—Viz.:

SIX STEAM-ENGINES—

1 80-inch cylinder PUMPING ENGINE, 9 feet stroke, with three boilers, about 36 tons, the first piece of rod, and iron balance bob.
1 60-inch cylinder PUMPING ENGINE, 8 feet stroke, with three boilers, about 33 tons, two balance-bobs, and the first piece of rod.
1 36-inch cylinder DOUBLE-ACTING STAMPING ENGINE, 10½ feet stroke, and three boilers, about 35 tons, two fly-wheels, about 30 feet in diameter, with wrought-iron arms and sweep-rod, for working 96-heads, wrought-iron lifters, 6 cast-iron and 2 oak axles, and 24 oak frames.
1 22-inch cylinder WHIM-ENGINE, with two boilers, about 12 tons.
1 18-inch cylinder WHIM-ENGINE, with two boilers, about 16 tons.
1 16-inch cylinder WHIM-ENGINE, with one boiler, about 8 tons.

The whole of the above Engines have Brass Air-Pumps and Buckets.

A SAW-MILL, with water-wheel, 28 feet in diameter, and 20 inches breast, cast-iron fly-wheels, and oak axles and frames.

5 Capstans and shears; about 700 fms. of capstan and cat-head ropes, from 16½ inches and under; 1800 fathoms of whim-ropes and chairs, of various sizes; 230 fms. of wire rope; 6 horse-whims; about 300 fathoms of PUMPS, of the following dimensions—viz.: 18, 14, 13, 12, 9, and 8 inches diameter; with plunger-poles, windbores, working barrels, H and top doorpieces, clack seatpieces, and brass buckets, plunger-pole cases, stuffing-boxes and glands, several hundred fathoms of ladders, 33 tram-waggons, 118 fathoms of 15-inch new oak rods, several hundred fathoms of flat and connection-rods, of various sizes, 600 fathoms of launders, about 2300 fathoms of tramroad iron, machine, horse, and winze kibbles, water barrels, a large quantity of stands and pulleys, wheel and hand-barrows, ore hutches, buddles, frames, and trunks, miners' chests, about 4 tons of old brass, several bundles of steel. 25 tons of NEW IRON, staples and glands, strapping-plates, of various lengths and sizes, boiler and kibble plates, stamps-heads and lifters, air-pipes, pulley blocks, iron and wood axles, weighing machine, 6 beams and scales, steel-yards, brass and iron weights, new and old shovels, riddles, pick and shovel hilts, sheet-lead, white-lead, safety fuse, engine-shag, gunpowder, candles, brass clacks, seats, and rings, ditto bearings, ditto valves, ditto poles, of 3½ and 2½-inch diameter, ditto air-pumps and buckets; 6 smiths' bellows, of the following dimensions—viz., 1 42-inch, 1 40-inch, and 4 36-inch; 5 anvils, 3 vices, smith's crane, punching engine, screwing stocks, taps, and plates, mandril, boring machine, a large quantity of smiths' and miners' tools, 2 grinding-stones, carpenters' benches, several tons of old wrought and cast-iron, a large quantity of old timber, old ropes, dials and stand, and a great variety of other materials in general use in mines. Also, FOUR CART HORSES and HARNESS, 4 carts and wheels, chaffing machine, and the whole of the ACCOUNT-HOUSE FURNITURE.

For viewing the same, application may be made to Capt. Evans, of St. Agnes; or Mr. Morriss, at the mines; and for further particulars (if by letter, pre-paid) to Messrs. Grylls and Hill, solicitors, Helston; or to Messrs. Hodge and Hockin, solicitors, Truro.

Dated Registrar's Office, Truro, the 12th day of January, 1848.

STEAM-ENGINE AND MINE MATERIALS.

HARROWBARROW OLD MINE, CALSTOCK.

TO BE SOLD, BY PUBLIC AUCTION, by GEO. CARNE, at HARROWBARROW OLD MINE, in the parish of CALSTOCK, on Tuesday, the 15th of February, at Eleven o'clock in the forenoon precisely (unless previously disposed of by private contract, of which notice will be given in the *Mining Journal* of the 5th Feb.), the whole of the valuable

MACHINERY AND PLANT: 3

Comprising excellent capstan and capstan rope, about 100 fathoms; shears, pulleys, and sheaves; 2 horse-whims, whim-ropes, poppet-heads and stands, water and cog-wheels, rollers and belts for machine for cleaning tin, 2 balance-bobs, stands, and bearings, main rods, strapping plates and bolts, about 50 fathoms of 9-inch pumps, with windbore, working barrel, H-piece, clack door, and seating, complete, plunger-poles, small shears and triangle, 2 pairs (one brass) of double-purchase blocks, large wrench and rope, several cleansing racks and troughs, 50 fathoms zinc pipe, several tons of useful iron and steel, 2 beams and scales (one very large), about 20 cwts. weights, weighing stand, large bell and pulley, adapted for a factory, quantities of friction-wheels and brasses, yokes and glands, ladders, kibbles, hand and wheelbarrows, spare rope, Norway and American timber, oil, grease, paint, safety fuze, nails, grates, shovels, lanthorns, miners' tools, ore barrels, tar, leather, lead, scrap-iron, kibbles, chain of various sizes, &c.; the FITTINGS of SMITH'S SHOP—complete set of taps and screw-plates, 2 pairs large bellows, 2 anvils, 2 vices, cooling trough, horse, and a large variety of tools and useful articles. In CARPENTER'S SHOP—benches, cross-cut saw, miners' and tool chests, grindstones, vats and kieves, rails, &c.; together with the

STEAM-ENGINE, BOILER, FLY-WHEEL, AND STAMPING MACHINERY

attached. The engine is on Syms's combined cylinder principle, whereby a very great saving in fuel is effected. The cylinders are 38 and 20 inches diameter; the boiler is 8 tons weight; the fly-wheel and stamping machinery have just been put up by Mr. West, the engineer, under whose superintendence the engine was also erected, within two years. Also, about FIFTY TONS of TINSTUFF, now lying on the floors, and a variety of useful effects.

The whole of the above valuable property is, for mining purposes, as good as new, having been but little used, and well deserves the attention of captains and agents of mines. The mine is about 2½ miles from the Tamar—is nearly adjoining the mail road from Cornwall to Devonshire—thus affording great facilities for the removal of heavy pieces of machinery.

Full particulars may be known on application to Mr. George Carne, 20, George-street, Plymouth.—The engine and machinery may be viewed three days (Sunday excepted) before the sale, or any previous day, by appointment with Capt. Cook, at the mine.

Catalogues seven days before the sale, on application at the mine; or at 20, George-street, Plymouth.

All PERSONS having any CLAIM on the ADVENTURERS, are requested to send the particulars of their accounts to the auctioneer.

Dated George-street, Plymouth, Jan. 22, 1848.

LAXEY MINES, ISLE OF MAN.—TO BE SOLD, BY

PUBLIC AUCTION, by order of the Court of Chancery, at the instance of the Receiver of the assets of the Isle of Man Joint-Stock Banking Company, on Monday, the 31st of January 1848, at Twelve o'clock noon, in the Wellington Hall, Douglas, THREE SHARES, and FOUR-SEVENTHS of a SHARE, in the LAXEY MINES, carried on in the parish of Lonan, in this island. 4

These mines, which are held under lease from the Government, including the whole parish of Lonan, are well known to produce the richest ore in this island—the property in which is divided into 20 shares.

A large sum of money has been expended in improvements, and in the erection of new and substantial machinery, which are nearly completed, and by which the mine will be placed in a most efficient working state—superior, in every respect, to what it has ever previously been in. The average raisings of ore for the last 12 months have been 50 tons of lead, and 900 tons of black-jack, per month, which is, at least, one-third more than has been raised within any 12 months previous. The stock in hand is valued at upwards of £4000, to a proportionate share whereof the purchasers of the above shares will be entitled.—The mine can be seen upon application to Capt. Rowe, the manager, at the mines, who will give such information as may be required; and further particulars may be had from the Receiver. SENHOUSE WILSON, Advocate, Douglas.

Isle of Man, Dec. 22, 1847.

TO BE SOLD, BY PRIVATE CONTRACT, the SETT and MATERIALS of EAST RELISTIAN MINE, situate in the parish of GWINEAR, in the county of CORNWALL.—This mine is suspended, in consequence of the pecuniary difficulties of some of the chief shareholders, whilst its prospects were never so encouraging. Copper ores, to a considerable amount, have already been risen, and the mine appears increasingly productive as it is being wrought in depth. 5

The speculation offers an excellent opportunity to a company who can raise but a small capital, as the workings may at once be prosecuted to a great extent on ore ground already developed, and without the aid of any additional materials. The engine is of 30-inch cylinder, and, together with the pitwork, is nearly new.

Application to be made to Capt. John Lanten, the manager, Poole, near Redruth; or to Mr. J. D. Vivian, the purser, Roseworthy, near Camborne.

VALUABLE PUMPING AND WINDING ENGINES FOR

SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL VOR MINE, in the parish of BREAGE, CORNWALL—

1 80-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main beam and caps, top nozzle, spring piston and rod—all new this year; with four boilers, of 12 tons each, in excellent repair.
1 80-inch DITTO, 10 feet stroke in cylinder, 7½ feet in shaft, cylinder, piston, bottom and cover, nearly new, with two boilers, of 12 tons each, and three boilers, of 10 tons each, all lately thoroughly repaired. 6
1 49-inch DITTO, 9 feet stroke in cylinder, and 7 feet in shaft, without boilers.
1 20-inch WINDING ENGINE, 5 feet stroke, with two boilers, of 4 and 6 tons, and vertical cage, all in complete repair—the boilers and some other parts nearly new.
1 18-inch DITTO, 4 ft. stroke, with one boiler, of 5 tons, and horizontal cage, complete.
Several TONS of straight and turned STEAM-PIPES.
12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.
A powerful WEIGHING MACHINE, nearly new, comprising every requisite.
An immense number of PUMPS, matching-pieces and windbores, 12 to 17-inch bore, with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands to match, from 11 to 19 inches bore, and plunger-poles, from 12 to 19 diameter.
Faggotted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, eyerunners, caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.

Dated Nov. 29, 1847.

N.B.—The above are of easy transit to Hayle wharfs, and from thence on ship-board, if required.

TO COLLIERY OWNERS, IRONMASTERS, & OTHERS.

—TO BE DISPOSED OF, BY PRIVATE CONTRACT, a LEASE of a COLLIERY, and about TWO HUNDRED ACRES of LAND, with the COLLIERY PLANT, situate in SOUTH WALES, on a line of railway communicating with a sea-port.

The estate is in the heart of the Great Anthracite District of South Wales, and abounds in anthracite coal, of the best quality, and also in iron mine; and is peculiarly well adapted for the site of blast-furnaces.

The land is let to respectable tenants, at rents which already go far to meet the dead rent of the whole; and, from the improvable nature of the property, they may be considerably increased.

The lease, which has 91 years to run, contains covenants very favourable to the lessee, and the royalties are unusually low.

Liberal terms will be afforded for the payment of the purchase-money. 7

For particulars apply to the following:—

London—Messrs. Clarke, Fynmore, and Fladgate, solicitors, Craven-street, Strand.
Swansea—W. P. Struvé, Esq.
Llanelly—E. E. D. Grove, Esq.
Birmingham—Messrs. E. and C. Rotchs and Co.

THE MINING INTEREST.—At a MEETING of the

LORDS, ADVENTURERS, and OTHERS, interested in the COPPER MINES OF CORNWALL, convened by the Earl of Falmouth and the Four Members for the county of Cornwall, held at Pearce's Royal Hotel, Truro, on Friday, 21st January, 1848,

The Right Hon. the EARL OF FALMOUTH in the chair,

the following RESOLUTIONS were adopted:—

Moved by Sir Charles Lemon, Bart., M.P.; seconded by the Rev. Canon Rogers,—

Resolved,—That memorials having been presented to the Treasury, by parties interested in the removal of the duties on Foreign Copper Ores, it is expedient that a deputation be appointed, of persons practically acquainted with the circumstances of the copper trade and the copper mines; and that they be instructed to aid in watching the progress of any measures which may be brought forward for the removal of such duties. 8

Moved by J. H. Tremayne, Esq.; seconded by R. Pearce, Esq.,—

Resolved,—That the said deputation do consist of the following persons:—Nicholas Kendall, Esq., high sheriff of the county; Joseph Carne, Esq.; T. S. Bolitho, Esq.; and Alfred Fox, Esq.

Moved by the Rev. Canon Rogers; seconded by J. Ennis Vivian, Esq., M.P.,—

Resolved,—That, with the view of providing a fund for the discharge of any necessary expenses which may be incurred, a request shall be sent to the mines, proposing that, at the next half-yearly payment for the Vice-Warden's Court, an addition, equal to *one-fourth* of that payment, by each mine, be made in the way of contribution; such addition being, in effect, in the ratio of *one-sixteenth* of a penny in the pound, on the sale of ores in the previous half-year.

Moved by J. T. Agar Robartes, Esq., M.P.; seconded by J. S. Enys, Esq.,—

Resolved,—That the amount of such contribution be paid into the Cornish Bank, in the name of the deputation now appointed, and to be accounted for by them at the close of the ensuing session.

Moved by W. H. Pole Carew, Esq., M.P.; seconded by J. T. Treffry, Esq.,—

Resolved,—That the resolutions adopted at this meeting be published in the county newspapers.

The Earl of Falmouth having left the chair,—

Moved by J. H. Tremayne, Esq.; seconded by Sir Charles Lemon, Bart., M.P.,—

Resolved,—That the thanks of the meeting be given to the Earl of Falmouth for his kindness in taking the chair, and for his able conduct therein.

IMPORTANT MINING SHARES FOR SALE.—

Captain JOHN SPARGO announces to his friends, and mining adventurers generally, that he is instructed to SELL SHARES in the following MINES—the qualities and prospects of which are well known to him; from his having superintended the operations therein for many months—and, in some instances, for years.

The peculiar advantages to be obtained in the present instance is, that the whole of the purchase-money is to be paid into the funds of the different mines, for the purpose of providing the necessary capital for putting them into full operation; Capt. Spargo, therefore, highly recommends these mines, as affording an opportunity of purchasing on most liberal terms.

NORTH WHEAL FRIENDSHIP—TIN MINE. 9

200 (1024ths) shares, at £3 per share.

This mine is in a position to *ensure dividends*, as soon as the necessary machinery is erected. A large pile of tin, of excellent quality, is now at grass: excellent stones of tin can be broken at the present level; and I can undertake that returns can be made before one-half the sum intended to be provided by the sale of the above shares is expended.

The mine can be worked by water-power.

GREAT WHEAL FREDERICK—TIN MINE.

500 (2048ths) shares, at £2 per share.

This mine is well known as having formerly returned large quantities of tin above the adit level. During the last two years I have superintended the operations. Large bunches of tin are gone down in the different adits, and nothing is now required but to erect machinery and sink upon the lodes. The mine is capable of being worked by water-power. I estimate the cost of erecting machinery and sinking for deeper levels at about £800, and I have no doubt of making ample dividends in a very short period.

WHEAL SAMSON—GOLD, SILVER, AND COPPER MINE

200 (2048ths) shares for sale.

The extraordinary quality of the ore in this mine justifies the most sanguine expectations. Many hundred pounds' worth of silver ore has been returned by a few miners from the branches of the lode. Samples have been broken by the present proprietor, worth, at least, £150 per ton. The main lode has now been discovered, and driven upon between 40 and 50 fathoms, at about 15 fathoms from the surface. Levels can be taken up on the course of the lode from the sea-shore, giving backs of from 60 to 70 fathoms, and there is every assurance of a large course of ore. I consider that from £600 to £800 would do all that is necessary in this mine, and that it is one of the most extraordinary speculations in the county. Shares in this mine have been sold for £20, but the above number of shares will be sold at a very low price, and the whole amount applied to working the mine.

Captain SPARGO is also instructed to SELL a FEW SHARES in the

EAST ALVENNEY MINE.

This mine is now working—the whole of the necessary machinery is erected: a shaft is sunk on the course of the lode. The quality of the tin is the finest that can be produced in Cornwall. The adventurers are now about to commence stoping on a rich course of tin, and there is no doubt but the mine is now on the eve of paying ample dividends.

ALSO, AN ENTIRE TIN SETT.

This tin mine is of great promise. The whole sett will be disposed of at a moderate price.

Applications for shares in these mines to be made to Capt. JOHN SPARGO, Down Gate, Stoke Climsland, near Callington, Cornwall; or to Mr. James Lane, 75, Old Broad-street, London, at whose offices plans and specimens may be seen.

ADCOCK'S PATENT SPRAY PUMP.—This important

INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 3, Northumberland-street, Strand, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d. 10

FOR SALE, BY PRIVATE CONTRACT—A single-acting

PUMPING-ENGINE—cylinder 30-inch diameter, 9-feet stroke, equal beam, with 7-ton boiler, cisterns, spring beam, and first set of rod-shafts attached, being the engine of Wheal St. Cleer.—For particulars, apply to Capt. Osborne, Liskeard; Mr. West, engineer, St. Blazey; or Mr. Rendle, the purser, 13, Octagon, Plymouth. 11

STEAM-ENGINE ON SALE.—A 30-horse power, high-pres-

sure, horizontal, STEAM-ENGINE, with BOILER, &c. (quite new); also, a PAIR of STRONG WHEELS, with SHAFT, BEARINGS, and CRANKS, suitable for pumping.—Apply to Mr. C. Wharton, engineer, Mount-street, Nottingham. 12

TO DIRECTORS AND SHAREHOLDERS IN MINES.

—ASSAYS and ANALYSES of all MINERAL PRODUCTS carefully PREPARED by Messrs. REYLIN and CHEESMAN, Analytical Chemists, &c., No. 30, Myrtle-street, Queen's-road, Dalston. 13

TO MINE AND COLLIERY COMPANIES AND PRO-

PRIETORS.—TWO SURVEYORS, thoroughly competent, are desirous of undertaking the SURVEYS of MINES and COLLIERIES, on terms advantageous to those who may have occasion for their services.—SALES or PURCHASES of SHARES in the above attended to with promptness and punctuality, on the usual commission. 14

3, Cannon-row, Westminster. DE WINTON & BONE, Surveyors.

MR. JAMES STRIDE, PARLIAMENTARY AGENT,

begs to announce, that he has COMMENCED BUSINESS as a MINING, ESTATE, SHARE, and GENERAL AGENT. He has ON SALE, SHARES in the best DIVIDEND-PAYING and other MINES. The earliest and most authentic information, and the full benefit of the market value, afforded to buyers and sellers of mining and other property.

MINES INSPECTED AND REPORTED ON. 15

35, Charing-cross, London.

MR. R. TREDINNICK, THREE KING'S COURT, 16

LOMBARD-STREET, LONDON,

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

JAMES LANE, MINING SHARE DEALER, 17

75, *OLD BROAD-STREET, LONDON.*

WILSON & FRASER, 2, WELLINGTON-BUILDINGS,

LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 2

MONEY.—MESSRS. KILLICK & CO. (late Winstanley,

Killick, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged. 19

6, Bank Chambers, opposite the Bank of England.

GEOLOGICAL MINERALOGY.—Mr. TENNANT, F.G.S.,

will COMMENCE the SECOND PART of his COURSE OF LECTURES, ON MINERALOGY, with a view to facilitate the STUDY OF GEOLOGY, and of the application of Mineral Substances in the ARTS. The Lectures will be illustrated by an extensive collection of specimens, and will begin next WEDNESDAY MORNING, 2d Feb., at Nine o'clock. They will be continued on each succeeding Wednesday.

Further particulars may be obtained at the Secretary's office, King's College, London.

January 28, 1848. R. W. JELF, D.D., Principal.

BANWEN IRON COMPANY.—Notice is hereby given, that

an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Saturday, the 5th day of February next, at Twelve o'clock precisely, in order to confirm the forfeiture of, or otherwise to deal with, the allotted shares unpaid upon, and for general purposes.

By order, J. P. HARRIS, Secretary. 21

23, Threadneedle-street, London, Jan. 26, 1848.

EUROPEAN GAS COMPANY.—Notice is hereby given, that

a HALF-YEARLY MEETING of the proprietors will be HELD on Thursday, the 10th of February next, at the hour of Two o'clock in the afternoon precisely, at the office of the company, 39, Finsbury-circus, London. By order of the board,

London, Jan. 24, 1848. J. B. GREAVES, Secretary. 22

GREAT ALVIGGAN MINE, near ST. AUSTELL.—The

holders and proprietors of shares in the OLD COMPANY are hereby requested to SEND in their CLAIMS FOR REGISTRATION, and PAY-UP all COST in ARREAR, in respect of such shares or interest, on or before the first day of February next; in default of which, they will be peremptorily excluded from all participation or benefit in the new company, now being formed. C. F. KIRKMAN, Trustee and Manager.

Great Alviggan Mine, near St. Austell, Jan. 6, 1848. 23

TINCROFT MINING COMPANY.—Notice is hereby given,

that a GENERAL MEETING of the shareholders in this company will be HELD at this office on Thursday, the 17th day of February next, at Two o'clock precisely. 24

44, Finsbury-square, London, Jan. 20, 1848.

UNITED HILLS MINE COMPANY, 5, Adam's-court,

Broad-street, Jan. 20, 1848.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders in this company will be HOLDEN on Wednesday, the 16th day of February next, at the office of the company, situated as above, at One o'clock precisely, for the purpose of receiving the REPORT of the directors as to the steps taken for the abandonment of the mines of the company, and the sale of the engines, machinery, and apparatus in, upon, and about, or belonging to, the said mines, and the making up of the accounts of the company, and of confirming such report, if found satisfactory, and the steps taken for effectuating the above objects; and also for the purpose of authorising the directors to take further steps for effectuating the above objects, and for carrying into execution such agreement or agreements as may have been entered into for that purpose, and for closing all the accounts of the company, and preparing for a final dissolution of the company. By order of the board, JAMES SMITH, Secretary. 25

WHEAL BARBARA MINING COMPANY.—Notice is

hereby given, that the AFFAIRS of the COMPANY will be henceforth CONDUCTED at the OFFICES, 4, STAMP-OFFICE BUILDINGS, MANCHESTER, in pursuance of the resolutions passed at the special general meeting of adventurers, held, pursuant to notice, on the 7th January, 1848, where all communications are requested to be addressed, and information can be required. WM. SHEARMAN, Purser. 26

WHEAL BARBARA MINE—NOTICE.—That all OUT-

STANDING SCRIP BE SENT into the BRITISH MINING OFFICES, No. 4, Stamp-office Buildings, Manchester, on or before the 1st of March, 1848; upon the delivery of such scrip, a transfer will be returned, according to the Cost-book Principle.

WM. SHEARMAN, Purser. 27

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to

inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,* 28

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE,

FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 29

PATENT GALVANISED IRON AND WIRE ROPE WORKS,

MILLWALL, POPLAR.

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PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1838, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 31

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under the immediate care of the inventor, and established for upwards of 30 years.—This elegant preparation is recommended in all cases of bile, acidities, indigestion, gout and gravel, as the most safe, easy, and effectual form in which magnesia may—and, indeed, the only one in which it ought—to be exhibited, possessing all the properties of the magnesia now in general use, without being liable, like it, to form dangerous concretions in the bowels, it effectually cures HEARTBURN without injuring the coats of the stomach, as soda, potass, and their carbonates are known to do; it prevents the food of infants turning sour; in all cases it acts as a pleasing aperient, and is peculiarly adapted to females. It has long been known that the most serious consequences have frequently resulted from the use of solid magnesia, which has been proved by Mr. Brande and many other eminent chemists, to form concretions in the bowels, endangering, and, in some instances, destroying life.—Sir HUMPHREY DAVY testified that this solution forms soluble combinations with uric acid salts in cases of gout and gravel—thereby counteracting their injurious tendency, when other alkalies and even magnesia itself, had failed.

From Sir PHILIP CRAMPTON, Bart., Surgeon-General to the Army in Ireland:—"DEAR SIR,—There can be no doubt that magnesia may be administered more safely in the form of a concentrated solution than in substance; for this, and many other reasons, I am of opinion that the fluid magnesia is a *very valuable* addition to our Materia Medica.—PHILIP CRAMPTON."—Sir J. Clarke, Sir A. Cooper, Dr. Bright, and Messrs. Guthrie, and Herbert Mayo, of London, strongly recommend Murray's Fluid Magnesia, as being infinitely more safe and convenient than the solid, and free from the danger attending the constant use of *soda or potass*.

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Letter from J. Murray, Esq., Lecturer on Chemistry, F.S.A., P.L.S.:—

"DEAR SIR JAMES,—Many years have elapsed since you first showed me, in your laboratories, your super-carbonate, or soluble magnesia, and demonstrated experimentally the remarkable quantity of pure magnesia held in transparent solution. It was then new to me, as it was to the chemical world, and I speak advisedly, as a practical chemist. I believe its medical value cannot be too highly estimated; and I am satisfied that the public is under an infinite debt of gratitude to you for those invaluable researches, which have been the means of its introduction. Not to mention its more obvious healing virtues, I believe it to be almost, if not altogether, a specific for lithic acid concretions, when used in the pure condensed solution invented by you.

'Believe me to be your's, faithfully, JOHN MURRAY, F.S.A.

"To Sir James Murray, Dublin. Portland-place, Hull, Aug. 30, 1839."

The following testimonial of the celebrated "Distin Family," who are well known to her Majesty and the nobility of England proves the great value of Sir James Murray's fluid magnesia, and is very encouraging for delicate persons going to sea:—

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"To Sir J. Murray. Tuthill's Hotel, Dawson-street, Dublin, Feb. 19, 1839."

From Dr. KENNEDY, Master of the Lying-in Hospital, Dublin:—

"DEAR SIR,—I consider the fluid magnesia to be a *very valuable* and *convenient* remedy in cases of irritation or acidity of the stomach, but more particularly during pregnancy, febrile complaints, infantile diseases, or sea sickness."

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CUNNINGHAM AND CARTER'S PNEUMATIC RAILWAY.

Having been the first of the public press to notice this ingenious mode of railway transit, which we did at considerable length in the *Mining Journal* of the 18th September last, and on several occasions since, it is with much pleasure we insert the following ample description, which appeared in the *Morning Advertiser*, a few days since, and which so completely bears out all our observations on the merits of the system.

Whatever may be deemed the result of our present experience of the atmospheric system, there appears to be no doubt of the fact, and it has been frankly enough admitted by its adversaries, that in the hitherto partial development which the principle of atmospheric pressure has undergone in this country as a moving force on railroads, it has discovered a profundity of resources, and a variety of modes of application, which eminently fit it for the purpose, and give it a decided advantage over its great rivals in the locomotive and rope systems of haulage. This circumstance, at least, may be taken as definitively settled, and must frequently have suggested itself even to those who, from the absence either of interest or inclination, have paid but very little attention to the subject. They cannot have failed to remark how numerous and how different, both in their construction and operation, have been the projects introduced by those inventors of railway machinery, who have resorted for a maintaining power to the force derivable from the atmosphere under circumstances calculated to afford it, or to have made the comparison of them with those which professed to be of a different character. While on the one hand they will have seen a succession of contrivances, each different from and independent of the rest, they would perceive on the other hand many others, perfected no doubt by the continued application of great judgment and the most refined ingenuity, but all of them more or less directed to the improvement of existing systems of traction. These considerations are not offered by way of defence of the atmospheric system, for that has been already undertaken by men well qualified for the task; and because, if regard be only had for the infancy of the system, it will not, perhaps, be deemed necessary to say much with that object in view. They will serve, however, as a ground on which its advocates may claim attention, and urge the expediency of bringing the most approved variety of it to perfection. The atmospheric system may, indeed, be recommended as being philosophical and natural; for the knowledge of the fundamental fact in the science of pneumatics, that the air exerts a considerable pressure on all surfaces in contact with it, would readily present itself as likely to afford the means of producing motion, and would be eagerly employed as soon as the requisite machinery could be made. If it were at all necessary or expedient, therefore, to place atmospheric pressure in rivalry with steam, not, of course, as elementary moving forces, but as conveniently available ones, it would stand the comparison well, or at least be held co-extensive with it in point of importance and mechanical utility. Considered as an object of commercial speculation, machinery proceeding on the atmospheric principle must ultimately receive the full effect of those advantages, which are peculiar to it, and which, by a judicious mode of application, will realise all the great results that have been promised for them. The comparison of the relative merits of the various kinds of traction, though only a superficial one, has always terminated favourably to the atmospheric; and even at this stage of our experience, leaves no doubt, that it will be the system to which we must finally recur, in our progressive efforts to derive from railway conveyance the full measure of the benefits which it is susceptible of yielding. In the locomotive system we have the huge mass of the engine and tender, on which the moving power has to be wasted, and the uniform motion of the entire train cannot be provided for without giving it the momentum which offers so great a difficulty in any attempt to stop it; while, in the event of an accident to the machinery, it becomes at once a helpless, immovable, and frequently dangerous body. With regard to the rope-haulage system, though it does not participate in the above evil, yet it is affected by another, and in the result perhaps a greater one—viz.: that a large proportion of the power of the stationary engines is consumed in moving the rope, and in overcoming its friction against the pulleys—a resistance which, were the section for haulage sufficiently long, would more than balance the impulse. In this case, as in the former, the waste thus arising is to be added to that occasioned by leakage in the engines, but were it not for its general inconvenience, it would be more economical. Now, the atmospheric system may be regarded as a rope haulage in which the rope, being an indefinite column of rarefied air, has no sensible weight. In the system, therefore, we have the least quantity of matter in motion, so that in that respect it conforms to the great criterion of mechanical excellence; and whatever waste we have to contend with, will arise only from leakage with stationary engines, and in the longitudinal valve of the exhausting main, which, in the present state of machine-making in England, cannot be deemed impossible of correction; moreover, as the principal difficulty of getting rid of the heavy engine with its injurious consequences to the rail, has been overcome, our attention will be the more easily directed to new modes of obviating the only one that remains. The leakage of the long valve has been justly regarded as the most formidable of all defects that interfered with the superior action of the atmospheric system, and many and ingenious have been the plans of which it has been sought to provide the remedy, either by an alteration in the form of the valve, or by dispensing with it altogether. Of all contrivances, however, for this purpose, which we have had occasion to notice, that which promises to prove the most economical in its working, as well as the most effectual, is that of Messrs. Cunningham and Carter, a large model of which we witnessed in actual operation at the Water-works, Peak-hill, Sydenham. In this new contrivance the patentees have adopted the wiser alternative of dispensing with the valve altogether, and from the description which we proceed to give of the machinery, it will be seen that they have relinquished it with every chance of complete success. Their arrangement, indeed, is so very different from atmospheric railways properly so called, that were it not for the employment of a continuous tube, scarcely one characteristic would remain to it by which it could be recognised as comprehended in the general class; but, with the absence of the other parts, there is the absence also of the defects they occasioned. This system does not contemplate great changes even in the fundamental work of the road; the up and down lines of railway are laid in the usual manner, but one exhausting main only is employed, and that is placed outside the trains. This tube, besides containing no valve whatever, is much cheaper and stronger than those at present in use; for not being of necessity cylindrical, it may be formed of thin sheet-metal drawn through the rove of a rolling-mill, in which the grooves in the cylinders are concave and convex, so as to corrugate the tube-sheets. They may then be easily united; and in addition to their forming a stronger fabric than a plain cylinder, the compression of the metal in the rolling-mill renders it more impervious to the atmosphere. When laid down on a line of railway it may be considered a continuous reservoir extending from end to end of the line, in which a partial vacuum is constantly maintained by stationary steam-engines, situated 10 miles apart, or by water power, if there be any available at the place; and, as all these unite in exhausting the air from the same tube, no delay can arise to the traffic from an accident occurring to either of them. The tube being fixed in its place is connected by branch pipes, with several pairs of vacuum-engines, which are placed opposite to one another, and on the outside of the two lines of railway, at intervals varying from 300 to 500 feet, according to the nature of the gradients, the curves, or other local circumstances. It must not be supposed that these vacuum engines are complicated or delicate pieces of machinery, subject to constant derangement, or involving a heavy expenditure. They are, in point of fact, as simple as they are ingenious; and it must be remembered that, in conjunction with the apparatus connected with them, they do, in a far more satisfactory manner, the work which in other systems is performed by the valve and piston. These engines are of the kind commonly called "vacuum engines," and are impelled by external pressure, brought into operation by the absorption of attenuated air from the long tube, in the manner we shall presently describe. Immediately adjoining the engines, and in the same straight line with them, are placed three horizontal propelling wheels, the centre one being placed in the vacant space between the two lines, and the others between the lines and the air-engines. To fix them the more easily, and to render them easy of access, trenches are cut across the road at the several places where the engines occur, and into each trench an iron case is fitted, being made in the first instance in convenient sections. The cases receive the bearings in which the vertical shafts revolve which carry the horizontal propelling wheels, and they also hold all the requisite machinery, which they protect at the same time from wet and dust. Near the ground, pulleys are fixed on all the vertical shafts, and endless straps, reversed between each pair, are made to connect them, so that when one propelling wheel is made to revolve, the two others revolve also. As both engines are connected with the main by branches, when the main is opened or closed to one engine, it is equally opened or closed to the other. The working of the engines at the proper moment is thus provided for. In the centre of that portion of the roof of the iron case which falls below the rails, is fixed a strong fulcrum or pivot, upon which turns a bent beam of iron similar to the beam of a balance, the ends of which are bent upwards, and are at a distance from one another greater by a few inches than the gauge of the rails. From the extremities of this oscillating lever depend two short vertical spindles, hung upon pivots, which enable them constantly to retain that position, and acting by small tapets which they touch in their motion, the one on a starting valve, and the other through a bell-crank, on a reversing valve, fixed in a chamber of the air tubes—this operation is exceedingly simple. When the motion of the oscillating lever depresses the starting valve, a communication is opened between the main and the vacuum engines, which are immediately set into motion, and as the piston of these engines act on the driving-wheels by means of a crank-rod and pin, it follows that the depression of the starting valve sets the propelling machinery in motion. The oscillating lever, however, in depressing the starting value, has at the same time elevated the reversing valve. The reversing valve being now up, if it be supposed to be forced back into its place, that motion will have raised the starting valve into its bed, and by shutting off their communication with the main, stop the engines. The arrangements for reversing the motion are exceedingly simple, and consist in the addition of two small cylinders to the reversing slide apparatus. Sliding rods connected with the air-engines are connected also with the pistons of the subsidiary cylinders, so that, when the reversing spindle is put down, a tappet which projects from it comes in contact with, and presses down the upper arm of, the bell-crank attached to the side of the sunken iron case, which effects, by means of a separate pipe, a communication between the main and the small cylinders, whose pistons immediately fall down, and produce simultaneously a corresponding motion in the slide rods of the vacuum engines. The additions to the carriages are all that is necessary to complete the description of the arrangement. These consist chiefly of traction rails, or long bars covered on three sides with iron, which are suspended from the axle-boxes, and extend the whole length of the carriage, on either side of it. On passing between the driving-wheels, the traction rails bear on their peripheries, which have a flange to overlap them for the purpose of giving steadiness to the train. The traction rails may be separated by the guard, so as to come into close contact with the propelling wheels, or they may be so contracted as to pass without touching them.

The operation of the whole apparatus will now be easily understood. When the train arrives at a pair of engines, a reversed inclined plane, below the traction-rail, moves over a tappet, or small stud, fixed vertically in the ground outside one of the rails, and carrying a small pulley. The tappet being forced down, acts upon the oscillating lever, which, in its turn, depresses the starting valve, and opens the communication between the main and the engines. The driving-wheels on either side are immediately set into motion, and, by their reaction on the traction-rails, which they grasp firmly between them, force, or, to speak more correctly, discharge the train, with an initial velocity equal to that of the periphery of one of the driving-wheels. When the last carriage passes the engines, another reversed inclined plane, fixed below the other traction-rail, forces down the reversing end of the oscillatory lever, and stops the engines in the manner already described. The engines are consequently in motion so long only as the train is passing through them. They then stop, and the train proceeds with the momentum they have communicated to them, until it arrives at the next pair of engines, which communicate a fresh impulse to the train, and this process is repeated, with incredible ease and rapidity, to the end of the journey. The rate of motion is provided for by the alteration of the inclined planes, which regulate, by their greater or smaller inclination to the horizontal line, the time of the formation of the vacuum in the engines, and consequently their rapidity of motion.

The above are the details of the construction of this apparatus, and of its mode of working; though described, perhaps, at so great a length, as to appear an intricate and complicated combination of parts. It must be remembered, however, that every portion of the apparatus has been more or less explained; and that, if viewed in their actual existence, the whole would appear exceedingly beautiful and simple, as it really is. The model which was exhibited to us, at Sydenham, consists of two concentric circular lines of railway, the outer one being about 50 ft. in circumference. An up and down train of elegantly-finished model carriages traverse the rails in continued succession, deriving their motion from three pairs of engines of about 5 in. in length, and an exhausting main, represented by a three-quarter inch. It is not, of course, pretended, that in a model of that size, any exact measure of the force upon the train can be discovered by experiment. That it is very great, however, will be obvious from the attempt to detain the train when grasped by the engines, regard being had at the moment to the indications of the pressure-gauge. The most satisfactory circumstance, however, which the model exhibits, and which, least of all, would have been expected in the absence of actual trial, is the ease and uniformity of the motion. The train was run so slowly as to perform only three revolutions in a minute, which gives a speed of about 1¾ miles per hour, and with that speed, which would have magnified any unevenness of motion, and the slightest tendency to shake or become variable, the motion was perfectly smooth, and very nearly uniform; for all practical purposes, indeed, perfectly so. With regard to the calculation of the speed of the train, it may be observed, that as every point in the periphery of the driving-wheel is successfully applied to corresponding points in the traction rails, the internal rectilenear velocity of the train will be equal to the curvilinear motion of the periphery of the driving-wheel. Now, as the pin to which the crank-rod from the piston is attached, is placed in the centre of one of the spokes of the driving-wheel, and as the diameter of the driving-wheel is equal to the length of stroke, it follows, on geometrical considerations, that the velocity of the driving-wheel is as many times greater than the velocity of the piston, as the circumference of a circle is greater than its diameter; the initial speed of the train, therefore, is 3·1415 times the speed of the piston. On the subject of the state of repair in which the system is likely to remain, the following considerations present themselves. The vacuum engines, from their number, being the most subject to derangement, if derangement is to happen anywhere, need only be mentioned here; and first, it will be recollected that as they are kept at work during the short intervals of time which a train occupies in passing them, their wear, tear, and repair, will be all the smaller, and there will be more opportunities for attending to them. Again, should one set of engines be deranged, the traction rails may be allowed to collapse on their springs, and the train may pass through without touching, and traverse the adjacent section till it reaches the next set of engines. That two consecutive engines will be out of repair at any given time, is scarcely probable, but some idea of the smallness of the probability may be derived in this way. If a line of railway have 300 pairs, or 600 engines, the probability that any one engine will be out of order will be represented by the fraction 1-600th; and, that any two engines will be out of order, 1-300th and 60,000th. The probability that those two engines will be consecutive ones, will be very much smaller: for there are 179,700 combinations of 600 things taken two and two together, and two consecutive things form only one combination out of the whole number. The probability, therefore, that two consecutive engines will be out of order, is as small as 1 to 64,692,000,000—an estimate of course comparative, but indicating, nevertheless, how unlikely the event is to happen, and almost ensuring the certainty of the perfect action of the machine. It now only remains to say a few words with regard to the expense of the system, and without going into an abstract of the items submitted to us, we we may state that the patentees calculate on an expenditure of 4000*l.* per mile, for a double line, exclusive, of course, of the cost of road-way and rail. On Samuda's plan, the corresponding cost would be 20,000*l.* Expense of working the line, on this new system, would not exceed the very trifling sum of 3¼d. per train per mile—an advantage which, taken in connection with those we have pointed out, and with this also, that the adoption of the system does not in any degree interfere with the facilities for crossings and sidings, afforded by ordinary lines, is conclusive of its very superior merits. To Messrs. Cunningham and Carter must be accorded, therefore, the praise due to the projectors of a system of railway, uniting in itself the natural advantages of the atmospheric with the accidental ones of the locomotive and rope haulage—of a system, whose economy, dispatch, and certainty, will prove invaluable in all departments of railway transit, and especially so, where a more expensive or less certain one would not meet the exigencies of trade.

COAL AT LABUAN.—A new contract has been made with Mr. Miles, for working an additional 500 tons of coal from the seam on the north-east part of the island.

ALLEGED IMPROPER WORKING OF COAL PROPERTY.—In the Bail Court, on Saturday last, Mr. Sergeant Talfourd applied for a *certiorari* to remove an indictment into this Court, which, it was expected, would be found against a Mr. Salter and another person, and which they would be called upon to answer at the Staffordshire Assizes. These parties were lessees under the Earl of Dartmouth, who was the proprietor of considerable coal mines in the neighbourhood of West Bromwich. These mines extended over 180 acres, upon which about 180,000*l.* were laid out in sinking pits, and in forming extensive collieries. The waste lands in the parish were enclosed, and the mines were allotted to the above nobleman, who was the lord of the manor. The property contained several small freeholds, some of which were occupied by the present applicants. The prosecutor was a Mr. Caddick, an attorney, in Westmoreland, who was the proprietor of one of those freeholds, of about three quarters of an acre in extent, half of which contained coal, and the other half was surface only. In September last, he made a complaint against the present individuals, that they had been encroaching upon his property, which was surrounded by many of those freeholds. Instead of proceeding by a civil action, he went before the magistrates, and made a charge of felony against these persons, under the 7th and 8th George IV., cap. 39, sec. 37, which enacted, that if any person attempted to steal from any mine, such offender shall be deemed guilty of felony, and, if convicted, shall be liable to punishment, as in case of larceny. These parties had, however, been bound over to answer the indictment; and he presumed that the prosecutor had been also bound over, in the usual way, to prosecute. The defendants stated in their affidavits, that they had conducted the works on their property under the advice and superintendence of the coal bailiff; that they were utterly unconscious of having encroached upon the rights of the prosecutor; and that they were ignorant of the exact boundaries of the property. They further said, that they believed they had a good and perfect defence to any criminal proceedings; that they wished the trial to take place before a special jury, and a judge of the superior court, as they believed some nice and difficult points of law were likely to arise in the course of the proceedings.—The application was granted.

THE ALLEGED COAL-PIT ROBBERIES.—On Tuesday Henry Bleasdale and Enoch Grimshaw were further examined on the charge of stealing coal from the mines adjoining, and near to the one in course of working, by Mr. J. Bleasdale at Wigan—particulars of which appeared in last week's Journal. Mr. J. Bleasdale has not yet been taken into custody, although 100*l.* reward has been offered for his apprehension.—Mr. J. Tarbuck, surveyor, said, since the last examination, that he had continued his survey, but had not completed it. There were six or seven drifts so completely filled with dirt that he could not survey them. The surveys were complete, so far as the cannel workings; they extended to a place marked No. 28 on the plan, which is the property of Mr. Pemberton Leigh. The drifts alluded to as being stopped, were not stopped up in the ordinary way of working. There were 29 drifts under the public street of Hallgate, from whence the cannel had been extracted. The average thickness of the cannel there was 2 ft. 10 in. and 4-5ths. There were two drifts still stopped up with water, and he could not tell their extent. The cannel had been got from under the National School in Hallgate, and, in his opinion, the pillars left were not sufficient to support it. He found the extent of the drift under the church-yard to be about 12 yards further than he had previously surveyed it. He ascertained this by pushing poles through the water. He could not tell whether there were diverging drifts from this or not. The cannel had been taken from under the property of Mr. Cardwell, Mr. James Marsden, Mr. Joseph Roper, and Mr. Bennett. There were four drifts passed under Mr. Cardwell's property, in Lower Hallgate; there were also six drifts under Mary Halliwell's houses, in the same street. There were, in addition to these, drifts under properties that he did not know the boundaries of.—The witness was afterwards cross-examined; but nothing very particular was elicited relative to the prisoners, excepting that Grimshaw, on five occasions, had given witness false statements; one of which being mentioned, was, that he had told him a drift went only six or seven yards, whereas, on surveying it, it was found to extend 60 yards.—Mr. Hedley, surveyor, was next examined. He said he had surveyed the surface, and found that the coal had been got from under 220 houses, from under the church and church-yard, from under the National School in the Hallgate, and from under the methodist chapel in the Clarence-yard. There were 29 drifts across the Hallgate, and the property was rendered insecure by them, as the pillars left were insufficient.—Mr. Stott, surveyor to Mr. Walmsley, was examined, and stated that no authority had been given to Mr. Bleasdale to get the coal under or within a distance of 40 yards of the house occupied by Mr. Pigott, of Bishopgate.—Mr. J. Brimelow, agent to Mr. Mort, surveyor, of Tyldesley, was afterwards examined at great length. He proved having surveyed the workings on several occasions, and once in 1846. At that time Grimshaw was on the workings; he understood dialling. He took witness to his home, and showed him a plan of the workings made by himself.—After the evidence of this witness, the inquiry was adjourned.

REMARKABLE EXPERIMENT.—A recent work of science gives the following novel experiment, which settles questions of some importance in philosophy:—"Two hundred pounds weight of earth were dried in an oven, and afterwards put into an earthen vessel. The earth was then moistened with rain-water, and a willow tree, weighing five pounds, was planted therein. During the space of five years the earth was carefully watered with rain-water, or pure water; the willow grew and flourished; and, to prevent the earth being mixed with fresh earth or dust blown in by the winds, it was covered with a metal plate, perforated with a great number of small holes, suitable for the free admission of air only. After growing in the air for five years, the tree was removed, and found to weigh 169 pounds and about 3 ounces—the leaves which fell from the tree every autumn were not included in this weight. The earth was then removed from the vessel, again dried in the oven, and afterwards weighed; it was discovered to have lost only about two ounces of its original weight; thus 160 pounds of woody fibre, bark, or roots, were certainly produced; but from what source? The air has been discovered to be the source of the solid element at least. This statement may at first appear incredible; but, on slight reflection, its truth is proved, because the atmosphere contains carbonic acid, which is a compound, or 714 parts by weight of oxygen, and 338 parts by weight of carbon."

STEAM TRAVELLING IN THE DESERT.—The model locomotive steam-carriage, applicable to traversing the Desert between Cairo and Suez, alluded to a few weeks since, is proceeding with; and it is expected that ere long some experiments will be tried, to test the applicability of the plan. Should it succeed, passengers will be conveyed by road steam-carriages, instead of the present vans with horses.

WOUNDS IN A LEG THAT HAD BEEN BAD FOR YEARS, CURED BY HOLLOWAY'S OINTMENT AND PILLS.—Mr. W. Darling, of Stirkoke-by-Wick, had suffered very severely for a long time with deep wounds in his leg; and in his endeavours to get them healed, he obtained the advice of many eminent surgeons, and tried almost every remedy—yet all failed to effect a cure, until he used Holloway's ointment and pills: these invulnerable medicines alone healed his legs in a few weeks, and he is now as sound as ever. Holloway's ointment is a safe and certain cure for old wounds, burns, scalds, tumours, chilblains, and unnatural swellings.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

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Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Linnæan—Soho-square	8 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
WEDNESDAY	Geological—Somerset-house	8½ P.M.
	Society of Arts—Adelphi	8 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
	Zoological—11, Hanover-square	3 P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Botanical—20, Bedford-street, Covent-garden	8 P.M.
SATURDAY	Westminster Medical—17, Saville-row	8 P.M.
	Asiatic—14, Grafton-street	2 P.M.

The History and Practice of Mining in the British Isles,

IN RELATION TO METALLURGY.

MR. ROBERT HUNT'S LECTURES AT THE LONDON INSTITUTION.

LECTURE IV.—LEAD: ANCIENT BRITISH LEAD MINES—LAWS OF THE LEAD MINES—CHARACTER OF LODES AND BEDS—CHEMICAL AND PHYSICAL PROPERTIES—PRODUCE OF THE KINGDOM, &C.

Mr. Hunt, who was received with loud cheers, commenced his fourth lecture by remarking, that it was doubtful at what period lead mining was commenced in Great Britain, but it was quite certain, that the Romans had lead workings in Wales, and probably in the northern districts of England. At Cwmsymlog, in Cardiganshire, and at Gogofau, or Ogofau, in Carmarthenshire, there were remarkable remains of Roman workings, particularly at the latter place, though, probably, they were the results of a search for gold, rather than lead. This, the Goginan Mine (of which a section was exhibited), was a profitable working to this day; but whether Roman, or of a later period, the ancient portions remaining were evidently worked before the invention of gunpowder. The probability of its being Roman was supported by the fact, that specimens of Roman pottery, and a number of gold ornaments, had been found there. A beautifully wrought gold necklace, of the workmanship of those ancient times, was now in the possession of a lady in that neighbourhood. The discovery of these remains, together with those of a bath, and other buildings, were considered conclusive evidence, that there had been a Roman station at Dolau Cothi, in connection with these mines. These old workings, however, were rather quarrying than mining—the material being obtained in open caverns, with levels run a short distance into the lodes, which consisted of lead, mixed with a very small portion of gold. Connected with these ancient caverns, there were many remarkable and romantic traditions. One of these wondrous tales, relating to the caverns of Ogofau, which were open to the sea, and filled with water at high tide, and some of them at low water (which was still the case), might not be uninteresting:—The water which still occupies the lower part of the cave was, in days of yore, reported to possess medicinal qualities, which attracted numerous bathers from the surrounding district. Among these, a fair maid, named Gwenilian—for brevity, Gwenno—was induced, on an unfortunate day, to attempt to explore the recesses of the cavern beyond a frowning rock, which had always been the prescribed limits to the progress of the bathers. She passed beneath it, and was no more seen; she had been seized by some superhuman power, as a warning to others not to invade those mysterious penetralia; and still, on stormy nights, the spirit of Gwenilian is seen to hover over a lofty crag, which rises near the entrance of the now deserted cave, and bears the name of Clock-ty-Gwenno, or Gwenno's Steeple.

It would be remembered that, in the first lecture, he had stated, when speaking of the abraded surfaces of the granite rocks—the rock basins—of Cornwall, that it was possible that many of those peculiar hollows might have been used for the pounding and washing of tin ore. In Wales, blocks of sandstone were similarly worn; and there was but little doubt they were used for a similar purpose. Near the old workings of Gogofau, a remarkable stone of this description existed, in which the hollows were evidently formed by artificial attrition. Tradition, however, referred the hollows, in this particular rock, to a more remarkable origin. The following legend was yet devoutly believed:—Five juvenile saints, on their pilgrimage to the celebrated shrine of St. David, emaciated with hunger, and exhausted with fatigue, here reclined themselves to rest, and reposed their weary heads on this ponderous pillow. Their eyes were soon closed by the powerful hand of sleep, and they were no longer able to resist, by the force of prayer, the artifices of their foes. The skies were suddenly obscured with clouds, the thunder rolled, the lightning flashed, and the rain fell in overwhelming torrents. The storm increased in vehemence—all Nature became chilled with cold—and even piety and charity felt its effects. The drops of rain were soon congealed into enormous hailstones, which, by the force of the wind, were driven with so much violence on the heads of the weary pilgrims, as to affix them to their pillow; and the vestiges they left are still discernible. Being borne away in triumph by the malignant sorcerer, who inhabits the hollows of these hills, they were concealed in the innermost recesses of his cavern, where they are destined to remain asleep, bound in the irrefragable chains of enchantment, until that happy period shall arrive when the diocese of St. David's shall be blessed with a pious bishop. (A laugh.)

It was, however, curious to find rocks bearing the same remarkable characteristics in Wales and in Cornwall. In the latter, they were invariably called sacrificing rocks; and the peasants would gravely point out upon them the figures of men, women, and children; and certain little black spots, which were always found in those stones, were believed to be the indelible stains of the blood of the victims as it flowed from basin to basin—thus had superstition linked itself with truth.

In the previous lectures, he had named several charters, granted by various monarchs at different times, and to different persons, authorising them to work the copper, tin, gold, silver, and lead mines of the kingdom; and he should not again refer to those; but he begged to draw attention to one or two others of an interesting nature From these it appeared that Henry the IV. granted to Henry and John Darby the lead mines holding silver in Cornwall and Devonshire; and Henry the VI. granted to John Sollers, for 12 years, the lead mines of Devon and Cornwall, and made John Bottwright comptroller. This John Bottwright, governor of the mines of Berryferres, afterwards complained that Roger Champernown took away 144 bowls of glance ore, valued at 15*l.* 6*s.* 8*d.*, and made profit of the same, without anything being allowed to the king—and he appeared to have gained damages for 100*l.* against Champernown. Edward the IV. granted, among others, to William Marriner and Simon Pert power to dig and search for mines within the counties of Somerset and Gloucester—paying to the King every eighth bowl of rich ore—with a clause to make mills to fine and smelt the metals. What these "bowls" were he had been unable to ascertain with certainty, but he believed them to be about the same as a north country bushel. The Germans, Goderswick and Vaverswick, who, as he had previously mentioned, received from Edward the IV. a charter to mine for tin, worked in Northumberland and Westmoreland, in this reign, for lead.

Sir John Pettus, in his *Fodina Regales*, says:—"This Henry VII. (a wise prince) taking notice of the interest and prerogative in the mines, did, in the very first year of his reign, grant a commission to Jasper, Duke of Bedford, and others, earls, lords, and knights, and by this and other ways raised a vast sum of money, and left his rich coffers to Henry the VIII., who added to the bulk by the sale of abbeys, &c. But before Henry VIII.'s death, almost all the treasures of his father's and his own were consumed, and what remained was left to Edward VI., an infant, whose experience could not guide him to the care of such affairs: then followed Queen Mary, who matching with Spain, was thereby interested in the wealth of Europe, and needed no other support or inspection, so this concern stood neglected for above 70 years."

In the reign of Elizabeth, the Queen sent to Germany for miners; and Houghsetter, a German, under a royal grant, worked the mines in Cardiganshire and in Cumberland. The latter had been previously granted by the Queen to the Earls of Northumberland, who thereupon opposed the progress of the intruder,—but a jury decided that, by the Queen's grant, Houghsetter had power to search in any man's land; and that the Earl of Northumberland's privilege had become null and void, 70 years having been allowed to elapse without any description of works being commenced. To prevent a revival of similar proceedings, an incorporated company was formed, of which, William, Earl of Pembroke, was first governor, and Robert, Earl of Leicester, James, Lord Montjoy, Sir William Cecil, and others, assistants. This was *The Society of Mines Royal*, the particulars of which he should defer to his next lecture, as their proceedings related chiefly to silver and gold.

He would however mention, *en passant*, that when any mines produced as much gold as paid for the working of the mine, independently of the other metals, it became "a mine royal."

William Humphrey and Christopher Shute had grants also from Elizabeth, and she also established the corporation of *The Minerals and Battery Works*. The arms of these two societies were very curious, and afforded indications of the modes of working then in practice. Those of the Mines Royal being—Argent a mount vert.—A man working within a mine, with two hammers, (one a borer with a hammer on it, as used at the present day,) and a lamp, all in their proper colours. On a chief azure a cake of copper between a bezant (a copper coin of small value) and a plate. On a wreath argent and azure, a demi-man (called in Dutch, the Schicht Master) with an *escochean* on his breast—or and azure per bend inverted: in one of his hands an instrument called a wedge, and in the other a compass—supported with two men; the one called the hammer-man, with a hammer on his shoulder; and the other, the smelter, with a fork in his hand, all in proper colours. The arms of the Society of Minerals and Battery Works, were—a Doric pillar supported by a lion and a griffin armed—on the top of the pillar a ducal crown or, &c.—the crest or—an helmet, and wreath argent and vert—two naked arms and hands, supporting a cake of copper proper. The supporters, an ancient man in a gown, wearing a headpiece, on it a crescent—and holding one hand on the *escochean*, in the other a pickaxe: on the other side a woman—holding also the *escochean* with one hand, and in the other a quadrant.

In the reign of James, these societies renewed their charters, and they worked effectively during the reigns of the two Charles's. Houghsetter and Thurland worked the mines in Cardiganshire for many years under the management of these societies; and persons of their name and lineage still lived there. The societies held their sittings at Mr. Kemp's house in Sheer-lane, he being registrar to both societies—and the mines of "Coomsumblock and the Darren hills—Coomarvin—Goginan—Tallabout—Coomustwith—Tredole and Rossevawer—which were old Roman works," were wrought by them for many years.

They could not, however, have been managed in the latter part of the time at the least, so as to be very profitable; for, when Sir Hugh Middleton undertook these, he obtained them for an annual rental of 400*l.* Sir Hugh managed better, and it was said that he cleared monthly 2000*l.* However, it was quite certain that, by the profits derived from these mines, he brought the New River from Ware to London—that is, he failed to bring it into the City; and the extraordinary task was completed by Charles II. Of him Sir John Pettus quaintly said—"Great wits and great purses seldom know how to give bounds to their designments; and, by undertaking too many things, fail in all."

In the diagram which was exhibited of the Goginan Mine, the workings of Sir Hugh Middleton were distinguished by being drawn in black, while the more recent workings were in blue. The older workings were not of any very great depth. The Cardiganshire mines passed into the hands of Mr. Bushell, who cut a level a mile in length, to lay bare the workings of Sir Hugh Middleton. He made no profitable discovery, but the level had an excellent effect upon the mine, by draining it, and rendering available several workings which were filled with water. The wealth derived by Mr. Bushell from his mines was so great, that he was able to find silver enough to purchase clothing for the whole army of King Charles I., to whom he was much attached. Mr. Bushell established a mint at Aberystwith, and the silver coinage issued from thence bore the plume of the Prince of Wales on both sides. The silver coin, called the "Pudsey shilling," now so rare, was, probably, issued in the north about this time. Among the most curious of the ancient laws, in relation to mining, were those which more immediately affected the Mendip Hills. In the time of Edward IV. these laws were founded upon the proceedings at a certain trial, set forth as a preamble in one of the most curious charters extant, of which he exhibited a drawing to a scale four times its real size. On one side was a rude drawing of the district of Mendip, with churches put in to represent the various parishes. In one part, there was a rude representation of a chase, to indicate the Mendip Forest; on the other side, were representations of the various processes of mining, and even the names of the men represented at work, as James Curry and John Ham, and others—one was holding a crowbar, and a second beating with a hammer. There were also drawings of various mining tools, most of which were in use to the present day; and a fourth drawing it would, perhaps, have been impossible to have told now what it was intended for, but that the artist, with great discrimination, had appended an explanation, in the words—"This is a fire!" (A laugh.) Probably an explosion was the real meaning; and, if so, it would be indicative that explosive force was then beginning to be employed in obtaining the ore. With respect to the charter itself, he would only trouble them with an extract or two, which would show something of the mode of conducting the business of mining in those days. The first part was very curious:—

Laws and orders of the Mendip miners, commonly called Lord Choke's laws.

"Be it known, that this is a true copy of them, enrolled in the King's Exchequer in the time of King Edward IV. Of a debate that was in the county of Somerset, between the Lord Bonfield and the tenants of Chewton and the prior of Green Ore—the said proprietor complaining unto the King of the great injuries and wrongs he had upon Mendip, being the King's forest. The said King Edward commands Lord Choke, the Lord Chief Justice of England, to go down into the county of Somerset to Mendip, and sit in concord and in peace in the said county concerning Mendip, upon pain of high displeasure. The said Lord Choke sat upon Mendip, on a place of my Lord of Bath, called the Forge—whereas, he commanded all the commoners to appear, and especially the four Lords Royal of Mendip—that is to say, the Bishop of Bath, my Lord of Glossonbury, my Lord Bonfield, the Earl of Chewton, and my Lord of Richmont, with all their appearance, to the number of 10,000 people. A proclamation was made, to inquire of all the company, how they would be ordered?—and they all, with one consent, made answer, that they would be ordered and tried by the four lords of the royalties; and then the four lords royal were agreed, that the commoners of Mendip should turn out their cattle at their outlets, as much in the summer as they be able to winter, without hounding, or pounding, upon these grounds soever, they went to take the course, and recourse, to which the four lords royal did put their seals; and were also agreed, that whosoever should break the said bond, should forfeit to the king a thousand marks, and all the commoners their bodies and goods, to be at the King's pleasure, or command, that doth either hound, or pound."

The first and second of these laws, which follow, relate to the leave of the lord of the soil, before any one can mine. The third says—"If any man, that doth begin to pitch, or groof, he shall have his hackes through two ways after the rake. Note—That he that doth throw his hacke must stand to the girdle, or waist, in the same groof; and then no man shall, or may, work within his hacke throwe; provided always that no man shall, or can, keep but his wet and dry groof, and his mark." That was, that if any man was desirous of digging a pit to seek for lead ore, he should have a right to such a distance of soil, as he could throw his axe both ways, he standing at the time up to the waist in the pit. The sixth item was as follows:—"That if any man of that occupation doth pick, or steal, any lead, or ore, to the value of 1s. 1½d., the lord, or his officer, may arrest all his lead-works, house, and hearth, with all his groofs and works, and keep them as safely to his own use; and shall take the person that doth so offend, and bring him to where his house is, or his works, and all his tools, or instruments, which to the occupation belongs, as he useth, and put him into the said house, and set fire on *all together* about him, and banish him from that occupation before the miners for ever." It was not to be supposed, that the culprit was to be burnt to death. Not many years ago, in a case of stealing in the Forest of Mendip, this mode of punishment was actually put in practice. The miner was brought into his house, all his furniture and tools were piled around him, and set fire to; and and he was then permitted to escape as best he might. This law was not, however, considered an entire remedy for crime, for the next item enacts—"That if any person doth pick and steal there any more, he shall be tryed by the law, for this law and custom hath no more to do with him."

The tenth and last item was as follows:—"That if any man, by means of misfortune, take his death, or by falling of earth upon him, by driving, or stifling, or otherwise, as in time past many have been, the workmen of the same occupation are bound to fetch him out of the earth, and to bring him to a Christian burial, at their own cost and charges, although he be *forty fathoms* under the earth, as heretofore hath been done; and the coroner, or any officer at large, shall not have to do with him."

Such are the curious laws and regulations extant in relation to the Mendip district, and similar customs were equally binding in Derbyshire.

At a more recent period, the Welsh mines passed into the hands of an association of a most curious character, of which the history was only to be learnt from a series of works preserved in the British Museum, which were otherwise very scarce, consisting of the reports of its proceedings made by Mr. Wallis, its manager. This was called "a mine adventure The first programme of this scheme set forth, that the only reason why England was not inundated with wealth from her mines, was, that a sufficient number of persons were not employed in working them; and that the more they were worked, the more productive would they be—as there were mines at Athens which were worked 300 years, and others in South America for a longer period, without any diminution in their yield of gold and silver; and that, therefore, no end of wealth was to be obtained, if multitudes of labourers were employed in working the mines of Cardiganshire. It was a sort of lottery—all those who drew prizes were to be partners in the adventure, and divide the profits; and those who drew blanks, merely creditors, receiving interest for the amounts they had expended in tickets. With a view to excite the patriotism of the wealthier classes in favour of the project, a large proportion of the wealth acquired was to be devoted to charitable purposes—one sum was to be given to Greenwich Hospital; a second was to be devoted to the building of almshouses in all parts of the kingdom; a third to the augmentation of the salaries of poor curates; and a fourth to the building of schools for poor children in all parts of the kingdom. The only approximation towards the realisation of these praiseworthy objects, was the building of a small school somewhere in Wales. This was a curious instance of the bubble schemes of ancient times, and it was a complete failure. After this, the only mention made of the mines of Cardiganshire by writers, was in relation to that of Darenfawr, in the book of Mr. John Williams, mineral surveyor, published in 1787. Speaking of this, he says:—"I saw at Darenfawr between 20 and 30 miners in a row, one before another, stoping upon the low soles about 50 fms., down below the surface, besides as many or more who were sumping, driving, and roofing—(sumping was cutting a small shaft from one level to another; driving was continuing the level; and roofing was digging out the ore from the roof)—in other parts of the work upon the same vein, and a great many more, were, at the same time, working upon a string, which struck off with an acute angle from the principal vein; and as the soles of the stones were nearly upon a level with the soles of the vein, I could see the miners, who were stoping out the ore in the string, by turning an acute angled corner, where the string came into the vein. This fine rib of ore was generally about 3 ft. wide, both in the vein and string, though, in some places, it was not above 2 ft., and in others near 4 ft. wide. Steel-grained lead ore is generally rich in silver; and this at Darenfawr was remarkably so—the produce in silver being great." The talented lecturer here exhibited a specimen of the steel lead ore, alluded to by Mr. Williams. Such was a hasty sketch of the progress of lead mining in Wales. At present, the number of the productive lead mines in the United Kingdom was 180—of these 80 were in England; 70 in Wales, and the Isle of Man; 10 in Scotland; and 20 in Ireland. There were a great many more smaller workings; but which, not being productive, he had not included them in his enumeration.

Lead ore occurred chiefly in limestone and slate. When in the latter it invariably was near the granite, in the same way that copper occurred. One of the diagrams exhibited was a surface sketch of a copper mine. The great hill in the back ground was granite, and the smaller one in the fore ground was slate, which overlapped the granite. The mine was sunk through the slate into the granite, and it was found that the granite was most productive of copper ore; but all the way through the slate was found excellent lead ore, mixed with black-jack. The lecturer exhibited a specimen, one side of which was lead ore, and the reverse zinc ore. On the table were specimens of some of the lead ores, the principal of which were the sulphurets (galenas). The steel-grain lead ore was always rich in silver, yielding 40 ozs. to each ton of lead; it was generally much laminated, and easily broken. There were several interesting crystalline varieties, the cubes of which were octahedron—a large drawing of which was exhibited; and on the table was a remarkably large and fine specimen, for which he had been indebted to the kindness of Mr. Tennant, of the Strand. A specimen of lead ore, in combination with zinc; another of carbonate of lead, or native white lead; and others, were exhibited. The chemical proportions of the lead ores were as follows:—Sulphuret of lead: lead, 79·6; sulphur, 18·4; silver, 7·0. Phosphate of lead: oxide of lead, 78·58; phosphoric acid, 19·73; muriatic acid, 1·69. Carbonate of lead: protoxide, 82·0; carbonic acid, 17·7; iron, 3. Arseniate of lead: oxide of lead, 69·76; arsenic acid, 26·40; muriatic acid, 1·84; iron pyrites, 2·0. Muriate of lead: oxide of lead, 55·82; muriate of lead, 34·63; carbonate of lead, 7·35; silica, 1·46; water, ·74. The latter variety was exceedingly rare, and found only in the Mendip district.

The mode of mining for lead was much the same as that for other metals. In the first instance, a level was driven on the lode, and then other levels, with rises or communications, between each level. In the north a shaft was sunk, and a level driven from the lower part of the hill, called an adit level, from which all the produce was discharged. Latterly, it had become more common, as the levels were driven to greater depths, to sink other shafts, and to bring the produce to the surface, by means of a windlass. At the mine of Goginan, of which a drawing was exhibited, the water drained from the pit was made to run down a channel cut on the hill side; and by means of a succession of water-wheels, it worked a number of immense stampers, shod with iron, with which the ore was pounded.

Mr. Smeaton, the engineer, of Greenwich, had designed the gigantic level of Nentforce, by which he proposed to drain at once the whole district of Alston Moor. By that drain, also, all the surface water was kept out of the pits, and the ventilation improved; and, although the expense was enormous, it had, in the end, been found to be exceedingly profitable. A similar plan had been devised for the Gwennap district, with equal success. Mining was always attended with a degree of uncertainty; and some of the richest mines in Cornwall have been at various periods abandoned, and afterwards worked with great profit. Shares in the Tresavean Mine, for instance, had once been sold with difficulty at a few shillings, and afterwards were worth upwards of 1000*l.* At Alston Moor, the Flow Edge Mining Company drove a level 250 fathoms, at an outlay of 1929*l.*, and failed. In 1812, John and Forest Wilson resumed the work. Four miners contracted, at 4*l.* 4*s.* per fathom, to drive 20 fathoms of level in the stuff under the limestone. In 1814 a rich vein was discovered, and a large quantity of carbonate of lead. They worked at 18*s.* the bing (8 cwts.), for six weeks, and cleared 80*l.* per man. Thus was Hudgill Burn Mine opened, within six years of that time—1820. The produce was 9000 bings of ore. The horse levels exceeded four miles in length, and a clear profit of 30,000*l.* per annum afforded to the proprietary.

When the vein was discovered, leave was sought, from the lord of the manor, to try it. When this was granted, the work must be commenced within a fortnight, and two men must be kept at work, or the permission would lapse. The adit was then driven, and which was called the horse level, because it was large enough for horses to pass through it, and it was then worked up by rises into the lode. Each rise, or the passage between each level, was 8 or 10 fathoms—the levels being one above another. The miners ascended and descended these rises by pieces of wood, driven into the walls, forming a sort of rude staircase. The fatigue attendant upon the use of this mode of ascent and descent, or by ladders, might be judged from the fact, that in the Tresavean—one of the deepest of the Cornish mines—it took a young and healthy miner an hour and a quarter to ascend from the bottom to the top. The Tresavean was now 120 fathoms deep; and lately, by the interference of the Polytechnic Society of Cornwall, a machine had been adopted, by which all this labour had been saved. By this plan, the miner fixed himself on a standing; and, all being prepared, down he and it went for 12 feet; he then stepped upon another standing, and went 12 feet more—until he reached the bottom: another set of standings being carried up to the top by the same machinery. This plan had been in use in the Hartz mines for many years; and no accident had as yet taken place. The deepest mines in the Hartz was 455 from the summit of the hill; but the Tresavean, in Cornwall, being 300 fathoms below the sea level, might to be said to be the deepest in the world.

All the lead lodes of Cardiganshire bore the same direction as those of Cornwall—namely: a little north of east, and south of west. Nearly all the productive lead lodes in Cornwall ran in a directly contrary direction, or rather at right angles to the copper lodes.

The lead ores occurred, in the limestone districts, in veins and in small strings, often opening into bellies of ore, as they were called, or large masses of ore, of a very curious character. Lead lodes, as well as those of copper, and the other metals, were liable to dislocations—such as had been described in the previous lectures, arising from the same causes.

The terms in general use were much the same in all districts. There were, however, exceptions; as, for instance, these dislocations were called *the slide*, or *the heave*; while in the north they were termed *the dip*.

With regard to the quantity of lead ore raised in Great Britain, the talented lecturer said he had been at a great amount of trouble, in connec-

tion with his official duties to obtain correct information; and he had, he believed, arrived at a closer approximation to the real quantity than had ever before been obtained. In 1845, there had been 76,641 tons raised; and in 1846, 73,094. Of this, England produced about 55,000; and Wales, 15,000 tons. The imports of lead were as follow:—1843, 2775; 1844, 3058; 1845, 5209; 1846, 7862 tons. In 1843, the number of tons exported were, 14,610; in 1844, 14,697; 1845, 10,485; 1846, 6421. In 1846, however, there was a good deal included in the return which had been sent from Spain to Newcastle for the purpose of having the silver and lead separated, and afterwards reshipped.

Mr. Hunt concluded his interesting lecture with several beautiful chemical illustrations of the presence of lead in water, in connection with the use of leaden cisterns, the great evil of which was mostly produced by galvanic action, created by the use of brass and copper taps and balls. (Cheers.)

[The next lecture "On Silver and Zinc" will be given at length in the *Mining Journal* of Saturday.]

ON THE USE OF GUN-COTTON IN BLASTING.

At the Paris Academy of Sciences, on the 17th inst., M. Combes read a paper "On the Employment of Pyroxiline, or Gun-Cotton, in the Blasting of Mines." The products of the deflagration of pyroxiline, according to the analysis published by M. Pelouze, may be thus represented:—46 volumes of carbonic oxide; 1 of carbonic acid; 13 of nitrogen; 34 volumes of vapour of water. It results, therefore, that this substance does not contain, like gunpowder of good quality, the necessary quantity of oxygen for the complete combustion of the carbon which it contains, and that its deflagration should give rise to the formation of much carbonic oxide, a gas at once inflammable and very injurious. I began to recognise, in effect, the formation of carbonic oxide, by placing a lighted torch near one of the fissures caused by the explosion of a charge of 600 grammes (about 21 ozs.) of pyroxiline; the gas escaping from the fissure of the rock took fire and burnt with the blue flame peculiar to carbonic oxide; the flame extended from the fissure, and gave rise to an explosion of the mixture of air and carbonic oxide formed. I then thought the addition to the pyroxiline of a suitable proportion of a salt rich in oxygen, and capable of giving up oxygen to a body in a state of combustion at a high temperature, would produce the combustion of the carbonic oxide; and that there results from this complete combustion, a very considerable increase in the blasting effect of the pyroxiline. I first tried chlorate of potassa. I added to 100 parts of pyroxiline made with carded cotton, 80 parts of chlorate of potassa in powder, dried at a stove heat (in employing the pyroxiline and the chlorate perfectly dry, it would follow from the analysis of M. Pelouze, and the composition of chlorate of potassa, that 88 parts of the latter should be added to 100 of the former.) I mixed the chlorate and the pyroxiline, and enclosed the mixture in cartridges made of ordinary paper, and exploded at, one charge, 900 grammes of the mixture, consequently 506 grammes (about 17¼ ozs.) of pyroxiline, and 400 grammes (about 14 ozs.) of chlorate, in a petard—which would take, according to the estimation of the miners, 3000 grammes of mining powder. A petard produced a very considerable effect, at least equal to that which would be produced by 3000 grammes of mining powder, or 2500 grammes of the powder employed for military purposes, or 900 grammes of pyroxiline alone, as we judged by comparison with the effects obtained from other petards. In the same quarry, the gas which escaped from the orifice of the fissure of the rock was not inflammable, the explosion was not accompanied by any smell, or smoke, or apparent vapour, whilst in the case of the employment of pyroxiline alone, the vapour of water contained in the gases formed becomes very evident by condensation in contact with the air, and it leaves a slight peculiar odour. The addition of the chlorate of potassa thus produced all the effect I had anticipated; but the price of this salt is high; besides that it must be feared that its mixture with a substance so easy of explosion as pyroxiline, and the charging of holes in a rock with such a mixture, could not be safely accomplished without the greatest precautions. I, therefore, tried mixtures of pyroxiline with nitrate of potassa and nitrate of soda. According to the analysis of M. Pelouze, 100 parts of dry pyroxiline would require 81·83 of nitrate of potassa, or 68·98 of nitrate of soda. I prepared a mixture of 100 of pyroxiline with 80 of nitrate of potassa, and 70 of nitrate of soda. Mixtures made in these proportions furnished in repeated trials results very constant—complete absence of smoke, and smell, after the explosion, as well as of inflammable gas issuing from the fissure of the rock; and blasting effects nearly as great as those which I obtained by the use of a mixture of pyroxiline with chlorate of potassa; that is to say, that a mixture of pyroxiline and nitrate of potassa in the proportions above given, produced about the same effect as the same weight of pyroxiline, three times its weight of military powder, and four times its weight of ordinary mining powder. These experiments were all made in the plaster-of-Paris quarries near Belleville; we may reasonably expect the same results in the blasting of rocks analogous to those of plaster, but we must not conclude that precisely the same effect would be produced on rocks of a harder quality. It is to be remarked, that the addition of the chlorate of potassa, or of the nitrates of potassa or soda to the pyroxiline, in the proportions which I have indicated, do not change the volume of the gases which result from the deflagration of the pyroxiline contained in the mixture operated upon; there is only produced a change of the carbonic oxide into carbonic acid, of which one part, when the nitrate is made use of, remains combined with the base of the salt, and is replaced by its volumes of nitrogen. The increase of effect is, therefore, due to the greater elevation of temperature which is produced in the deflagration. If, therefore, we are enabled, as it now appears probable, to prepare the pyroxiline at a price of 5 fr. or 6 fr. per kilogramme, and to preserve this substance without much danger, the employment of this substance with the addition to it of a suitable proportion of nitrate of potassa for mining purposes, would be found more economical than the use of gunpowder. In addition to economy, it also possesses the desirable properties of not producing smoke and irritating gases in its deflagration. It is also probable, that an intimate combination of pyroxiline and nitrate of potassa may be effected, by plunging the former into a hot solution of the latter. M. Mirot has already made some experiments in his laboratory on this subject; he has plunged into hot solutions of the nitrate, or chlorate, of potassa, pieces of the tissue presented to the Academy at its last sitting, by M. Nynier, and which this chemist has kindly furnished me with. A small portion of this tissue, taken out of a solution of nitrate of potassa, was found to have retained, after drying, 37 per cent. of its weight of that salt.

ACCIDENTS.

Bunn's Lane Colliery, Tividale.—J. Heath, aged 12, and D. Turner, aged 10 years, were buried by a fall of coals.

Ince, near Wigan.—As two lads, named J. Morris and W. Platt, were working as drawers, a quantity of roof fell, killing the former, and injuring the latter.

Tincroft Mine.—R. Hampden was killed while working here.

Torncliffe Works.—J. Miller was killed by an explosion, whilst working in Messrs. Newton, Chambers, and Co.'s silkstone pit.

Stirchley Iron-Works—A Whirl—Awful Event, and Loss of Life.—On Saturday morning a dreadful event took place at one of the pits at Stirchley. A company of men and boys were being let down into the pit, when, dreadful to relate, one of those destructive and awful misfortunes took place, called a "whirl," or by some a "runner"—that is, the chain flew off the barrel, and precipitated them all to the bottom, by which dreadful occurrence three poor boys were killed in a moment. There were about 16 men and boys in the chains, and several of them have been more or less injured. The three boys were in the centre of the group, upon whom the chains fell, and they were killed almost instantaneously. Doubtless, at the coroner's inquest, a strict investigation will be made as to the circumstances of the truly lamentable accident.—*Shropshire Journal.*

Donnington Wood—Distressing Accident and Loss of Life from Fire-Damp.—On Thursday last one of those lamentable and distressing events took place near the Muxton Barracks, in Donnington Wood Field, which so frequently occurs in the pits connected with iron-works, by which human life in a moment becomes a prey to death. In the present fatal instance, a workman of the name of Rushton, had gone down with another man to prepare a pit for working, and not being sufficiently aware of the presence of foul air, commonly called fire-damp, his light caught it, and in a moment it exploded, forcing him many yards from the place where he was, burning him very badly, and proving his death. The other workman was much injured, but yet he helped to get his fellow-workman out of the pit, and take him to his house. A coroner's inquest has been held upon the body of poor Rushton, and a verdict of accidental death returned. Unfortunately, he has left a wife and family to lament and feel his loss. The other sufferer, we are happy to learn, is getting the better of his injury, and likely to recover.—*Shropshire Journal.*

Fatal Accident.—On Monday last two men were killed, and one seriously injured, by the falling of a portion of machinery, at a coal-pit at Brymbo, near Wrexham. It appears that as three men were being hoisted up at six o'clock in the evening, on leaving their work, a portion of the machinery gave way when they were about 12 yards from the top, and the unfortunate men were precipitated to the bottom of the pit. Two were killed, and the other lies in a very precarious state. The names of the deceased are Edward Penny and John Jones.

Fatal Coal-pit Accident.—On Saturday afternoon last, as a man and two boys were descending one of the shafts at Laffak Colliery, near Parr, the rope broke, had all three fell to the bottom of the pit, and were killed upon the spot. The mine is 147 yards deep, and the brewman perceived the rope to break when the three persons had arrived about midway down the pit, and, therefore, they must have fallen about 70 yards. The names of the deceased persons are, William Fairhurst, aged 46; John Fairhurst, his son, going of 11 years of age; and Caleb Roby, also in his 11th year.—*Liverpool Mercury.*

AYRSHIRE IRON COMPANY.—We are gratified to learn, that the first payment of 10s. per pound was paid on Friday and Saturday last, to as many of the creditors as it was possible to overtake; and that the amount has been defrayed entirely from the money contributions of the shareholders—the sum already received in this way being upwards of 70,000*l.* Instalment bills, payable at six and twelve months, have been, at the same time, handed over in liquidation of the other 10s. The remaining creditors, we understand, are to be settled with from day to day, as they apply.—*Scotch Reformers' Gazette.*

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The lode in the adit end east continues to improve—it is now producing about ½ ton per fm.; the pitch also, behind this end, is producing ½ ton per fm. We are clearing up the western shaft at Nangles, and hope to have more men working on tribute here shortly. The lode in the 18 fm. level end, west of Slob shaft, is still small and poor, producing stones of ore. In the 12 fm. level end, the lode is thinly mixed with ore—more irregular than last reported; the stopes, behind this end, are also producing less ore; the stopes (over Doyle's), in the back of the 18 fm. level, and the stopes, in the bottom of the same, are producing about ½ ton per fm. There is a vessel on her voyage from Llanelly here, which will take the lead.—Jan. 20.

BEDFORD UNITED.—At Wheal Marquis, in the 90 fm. level, west of the sump-winze, the lode is 2 ft. wide, producing about two tons of ore per fm.; in the 90 fm. level east we have just cut into the lode, but have not yet reached the north wall—so far as it has been seen, the lode wears a very promising appearance, and is producing some rich ore; I hope in my next to be able to report more fully; the lode in the 90 fm. level, east of Hooper's winze, is 2 ft. wide, producing saving work. There has been no lode taken down in the 80 or 70 fm. levels since last report. The men have resumed driving the 70 fm. level west on the south lode, in which the lode is 18 in. wide, composed of spar and mundic, with spots of ore in places. The lode in the 25 fm. level, east of the south engine-shaft, is 2 ft. wide, producing good stones of ore; and in the adit level, on this lode, there has been no lode taken down.—Jan. 26.

COATLITHE HILLS.—During this week our progress in clearing the level east from A shaft has been rather slower than usual, in consequence of such a quantity of stuff coming down from the old workings, above the back of the level; but we hope to get up to the old shaft, sunk from surface, by the end of next week.—Jan. 22.

CUBERT.—In the east end, in the 35 fm. level, the lode is 1 ft. wide, composed of spar, mundic, and lead, worth 4*l.* per fm.; in the west end, in this level, the lode is 18 in. wide—spar, mundic, and lead, but not rich. In the 25 fm. level the lode is 1 ft. wide—soft spar, mundic, and some good saving work, worth from 4*l.* to 6*l.* per fm. In the 15 fm. level west the lode is 20 in. wide—spar, mundic, and lead.—Jan. 22.

DEAN PRIOR AND BUCKFASTLEIGH.—The progress made since my last visit, although satisfactory in the main, has not been attended with that dispatch which was contemplated on making my last report. The severity of the weather has, in some measure, caused unforeseen delay, as regards the surface work—the crusher and stamps not being yet to work; indeed, some four or five weeks will elapse ere the operations at surface can be said to be fairly in course; in the meantime, however, the workings underground are going on favourably, and with increased prospects of successful results—the end going west in the 50 fm. level, or 20 under adit, having a strong leader, a foot big, on the north wall, with good quality ore. Some work has been set on tribute, but at 12s. in 1*l.*, the object being rather to prove the lode at that point. The engine-shaft is going down with full force, the price being 12*l.* per fm.; about 4 fms. will be sunk this month (5 weeks); its present depth is 8 fms. below the deeper level. The second wheel is now in course, having been started this day, and works well. The severity of the weather, however, precludes the masons from getting on with the walls; and some delay has arisen from the nature of the ground, which required puddling, to render it secure, so as to take the superincumbent weight. It is, however, expected that within a month, or six weeks at the furthest, the first sampling may be made, which, it is confidently expected, will be kept up for the future, with the increased workings, and the facilities afforded by means of the new machinery. There has been much inconvenience, arising from the difficulty attendant on obtaining carpenters, and other workmen; but extra hands have been secured, and the works are now going on with greater spirit. The nature of the ores continues much the same as when last reported. The lode is large, but hard, carrying, however, good strings, or stones, of ore, varying from 10 to 18 per cent. produce; the quantity of ore lying at surface may be taken at about 30 tons, varying in quality, but the greater part of which may be returned, to yield a good produce—it of course remains to be seen to what produce it would be most economical to reduce them. There is nothing new beyond the extension of the works, which hold out good promise, and the lode is found to improve as it goes down. The launders have been fixed for the second wheel, and the foundation is found to be secure, so that no delay will arise but that necessarily dependant on the weather. Capt. H. F. Stephens, of Wheal Barbara, and Carthew Consols, visited the mine in company with me, and expressed his satisfaction of the manner in which the operations at surface had been conducted, as also the underground workings, and the quality of the ore. No report of interest beyond the ordinary workings must be expected for the next six weeks, when, doubtless, some interesting information may be rendered.

— It is useless to do anything more to clear the leat until the snow is all down, and even then if the wind is high, for it drifts on the moor, so that what we clear by day fills up at night, and stops the flowing of the water; under those circumstances, the sinking of the engine-shaft is stopped, not having water home to work the wheel; the frost is also very severe, but I hope a change will take place speedily, and no time shall be lost as to getting home the water. I have put the men in the bottom level west, to cut through the lode to the north wall, to ascertain its size, &c. The pitches are without alteration.—January 26.

DEVON AND COURTENAY CONSOLS.—The sumpmen have commenced sinking the engine-shaft, and cutting ground for cisterns, bearers, &c. In our cross-cut, driving north, to cut the lode, we have intersected a small branch, underlaying south, containing mundic, spar, &c.; notwithstanding the large branch of ore that we intersected last week, the ground and distance in the cross-cut continuing north, intimates that there is yet another lode to the north, which we calculate to be our main one.—Jan. 25.

EAST CROWNDALE.—The men engaged in our engine-shaft here have, during the past week, been employed in fixing a standing lift in the 47 fm. level, and taking up water in the shaft; this is now completed, and sinking will be resumed next week. The lode in the 47 fm. level west still continues to improve—is now 3 ft. wide, with two well-defined walls, underlaying about 4 ft. per fm., the whole of which is good saving work; from the very uniform and favourable appearance of this end, good and profitable returns are now being made; the lode is composed of peach, spar, mundic, and ore, and at present worth 10*l.* per fm., and will, without doubt, before the end of next week, be worth 20*l.* per fm.; we have taken the men from the western end, and placed them in this, in order to avail ourselves of quickly making returns from this course of ore: the eastern end, in the 47 fm. level, has still a small branch of ore, about 2 in. wide, and, for the present, suspended; the lode in the engine-shaft, at Rix Hill, is, with regard to appearance and quality, just as when reported on in our last.—Jan. 22.

EXMOOR WHEAL ELIZA.—We have cut through the north lode of the adit level, which is about 7 ft. wide from the south to the north wall, and underlaying from 18 in. to 2 ft. in the fathom north; it is a promising lode, composed of a fine gossan and mundic, with spots of copper ore, a very kindly lode, to the depth of only 4 fms. from the surface. By cutting the lode in this level, we now can ascertain the distance we have to drive from the engine-shaft to cut this lode in the 12 fm. level, taking the underlay (say) 1 ft. 9 in. in a fm. the average of the above; the distance from the engine-shaft to the lode in the adit level is 10 fms. 2 ft.—the shaft being 12 fms. deep below the cross-cut; the lode in that level (say) 14 fms. This I should recommend to go on with immediately with four men, and keep four men driving on the course of the south lode. We have now, while I am writing, the last pump for our new lift brought to the mine, and the lift will be all in the place before we leave work this evening, but shall not be able to put to work until Monday, as we are not ready with the whole of the smith's work, in consequence of the delay of two days this week; the horses could not bring materials to the mine, owing to the fall of snow we had on Monday and Tuesday last.—Jan. 22.

GALLOWAY.—The lode in the shaft, which we are sinking here, continues large—say about 5 ft. wide, containing more mundic than we have seen hitherto, with a pretty large flookan, and, on the whole, a very kindly lode.—Jan. 22.

GREAT MICHELL CONSOLS.—The lode in the sump winze continues 6 ft. wide, containing mundic, fluor, peach, spar, and ore, producing some saving work. In the 35 fm. level, west of the sump winze, the part of the lode being carried 4 ft. wide, has still that promising appearance, composed of mundic, spar, peach, and can, with some rich ore intermixed throughout.—Jan. 26.

HOLMBUSH.—We have intersected another small string of spar and mundic in the 132 fm. level cross-cut, south from the diagonal shaft, underlaying north. In the 120 fm. level, west of the slide, we have just intersected the eastern wall of the lead lode, which has drained the winze. In the bottom of the 110 fm. level (sunk some time since, about 3 fms. below the level, but was suspended in consequence of so much water), we have now set it on tribute for copper, at 9s. in 1*l.*; both the north and south levels, in the 110, on the eastern part of the lead lode, are worth 10*l.* per fm.; the pitches, in the back of this level, on the western part, wrought at 8s. in 1*l.* on the value of the lead, are still productive, and the men earning wages. In extending the 100 fm. level south of the lead lode, we have intersected another east and west branch, 8 in. wide, composed of spar, mundic, and sprigs of copper, underlaying south 1 ft. in a fm.; in this level we have six men driving east from the western part, to intersect that part of the lode cut in the 110, should it hold up as high in the same direction, which we think will be found the case, from the large stream of water issuing from it in the 110; nothing like it has been seen in the levels above; the lead pitches, in the back of the 100 fm. level, are still yielding a fair quantity of lead. We have also two men in the 90 fm. level driving east from the western part of the lead lode, to prove if there be another part in that direction in this level.

KIRKCUDBRIGHTSHIRE.—In the 50 fm. level end west we have not been able to do anything during the week, as the whim had been fully employed clearing stuffs which had accumulated, in consequence of a breakage of one of our tooth-wheels; but we expect to resume this end in the beginning of the coming week. The lode in the 40 end west is 4 ft. wide, producing stones of ore; the winze, sinking under this level, has been idle during the week, as the men refused to sink it at their old price; to-day we reset it at 8*l.* per fm., and 20s. per ton, for saving the lead—say about 1 ton per fm. The lode in the 30 end west is looking well—is 4 ft. wide, producing upwards of a ton of lead per fm.; the lode, in the bottom of Keith's shaft, is of a similar description. This day we have shipped 40 tons. 18 cwts. of lead for the Holywell market, and calculate we have from 8 to 10 tons between our hands on the following.—Jan. 22.

MENDIP HILLS.—In the slag department we have, during the past week, washed and cleaned a few tons of slags, taken from the lower part of the slag ground; and on Friday last a small pile was smelted, which, I am glad to say, produced a fair quantity of metal; from this, I am led to believe we shall, after we have extended the open cutting further up the valley, so as to lay open a larger quantity of slag ground, be in position to make profitable returns.—Jan. 24.

SOUTH WHEAL TRELAWNEY.—Snell's engine-shaft is in course of sinking, with nine men, down under the adit. In the 23 fm. level the ground is just the same as last mentioned, and water just the same as last report. We have had spots of copper ore and mundic in the shaft last week.—Jan. 24.

TAVY CONSOLS.—We are now driving the 36 fm. level east and west, with a good lode in each end. We sampled 102 tons 7 cwts. dry ore, on Friday last, for the month's work; and in another month shall commence sinking again. The stopes are looking well in the 12 fm. level.

TIN VALE.—Since Mr. Smith was here, on the 19th inst., Thomas Poolley and his partners, have driven 1 fm. 2 ft. on the middle tin lode in adit A. The lode at present is 3 ft. wide, producing a great deal of good tin—so good, that the lode is worth 12*l.* per fm. for tin ores. The ground by the side of the lode is quite favourable, and very congenial for tin—being a soft decomposed granite. The tributers are doing well on the north lode, in adit A, getting above wages—what tributers call, getting a "sturt." I shall, on Saturday, set another pitch west, on the same lode: so, you see, the first pare of tributers, by doing well, have induced others to come on. John Stocker, and his partners, have driven south, this last week, 1½ fm. towards the great south tin lode. I think we are getting near a branch, or lode, as there is so much water coming from the present end. In adit B, the lode has increased in size and quality; it is 3 ft. 6 in. wide—worth 15*l.* per fm.; and I think it will continue to increase, for this reason—there is such a large quantity of water coming out of the lode in the bottom of the end, that I think all miners will agree with my opinion, that there is a great hollow lode before us. We are getting on with the leats as fast as the weather will allow, as the ground is so frozen up, that the men can make but little progress; but we are doing all in our power to get the water on the wheel, to commence stamping tin. I shall want your orders shortly, to put up stamps at adit A, as our piles of tinstuff are enlarging fast on the surface, from adits A and B.—Jan. 26.

TRELEIGH CONSOLS.—Christoe's shaft is sunk to the 120 fm. level, and we have commenced cross-cutting north. In the 110, east of Christoe's, the lode is about 2 ft. wide, rather more promising, with stones of ore. In Garden's shaft, below the 100, the lode is 3 ft. wide, of a very promising nature, with good stones of ore. In the 100, east of ditto, the lode is 2½ ft. wide, with a very promising appearance, with good stones of ore; in the 100, west of ditto, the lode is 3 ft. wide, but little ore. In the 90, west of ditto, the lode is about 2½ ft. wide, worth 8*l.* per fm.; in the winze, below the 90 west, the lode is about 2½ ft. wide, worth 6*l.* per fm. In the 80, west of ditto, the lode is 2 ft. wide, producing good stones of ore, not to value. The rise, above the 70 west, was holed to-day with a borer; we shall resume driving the 70 west in a day or two. In the 60, west of ditto, the lode is 2 feet wide; it consists of spar, mundic, and stones of ore. Wheal Parent cross-cut is driving north to the new engine-shaft. We shall set a new pitch in the back of the 60 west in a day or two.—January 22.

WEST WHEAL JEWEL.—In the 57 fm. level, west of Hodge's cross-course, on Wheal Jewel lode, the lode is 1 ft. wide, and worth 3*l.* per fm.; in the cross-cut south, at the 30 fm. level, west of Quarry shaft, the ground is still favourable for driving. In the 20 fm. level, west of Quarry shaft, on Telcarne tin lode, the lode is 6 in. wide, and worth 4*l.* per fm.; in the deep adit, west of Quarry shaft, on the same lode, the lode is 15 in. wide, and worth 5*l.* per fm.; in the shallow adit level, west of Quarry shaft, on the same lode, the lode is 18 in. wide—unproductive; the stopes in the bottom of the adit, east of Pryor's winze, on the same lode, the lode is 5 ft. wide, and worth 35*l.* per fm.; in the stopes west of Pryor's winze, in the back of the 12 fm. level, on the same lode, the lode is 5 ft. wide, and worth 30*l.* per fm.; in the stopes east of George's winze, in the bottom of the 12 fm. level, on the same lode, the lode is 3 feet wide, and worth 10*l.* per fm.—Jan. 24.

WEST WHEAL MARIA.—The ground in the cross-cut south, in the 54 fm. level, is much the same for driving as it has been for some time past, rather hard, in which there is pretty much water issuing out.—Jan. 25.

WHEAL ADAMS.—The men employed in driving the 50 fm. level south have reached the flookan on which rests the eastern lead lode, which is about 10 in. wide, consisting mostly of quartz; the level has been extended a few feet south on the clay, as proposed in our last report, and we commenced rising yesterday. In the cross-cut in the 18 fm. level, we have intersected the middle branch, which is about a foot wide—5 in. of which is good saving work. We have 9 ft. more to drive to cut the western silver-lead lode, which we propose doing previously to opening on the branch in question. We shipped, on Friday last, 30 tons of lead ore, sold to Messrs. R. Mitchell and Son, Truro; and sampled, on Saturday, another parcel, computed 30 tons—samples of which were duly forwarded to the purchasers of lead ores.—Jan. 25.

WHEAL TREHANE.—Kelly's shaft is sunk 6 ft. below the 45 fm. level, and the shaftmen are now engaged in cutting whim and cistern plats, and preparing the necessary work for fixing a lift in that level, which, when completed, we shall resume sinking with all possible speed; we have cut in towards the lode here about 8 ft.; and should the ground continue as favourable for cross-cutting as at present, I expect the lode will be cut in the course of next week. In the 35 fm. level north the lode is 2 ft. wide, and will produce about 8 cwts. of lead per fm.; the stopes, in the back of this level, are turning out a fair quantity of tolerably good work. The same may be said, also, of the stopes in the back of the 30 fm. level north. In stoping the bottom of the 20 south, and back of same level north, we are raising a small quantity of very rich work, and some gossan ore, part of which is tolerably rich in silver. We have now about 25 tons of good quality ore dressed towards the next sampling.

WHEAL TRELAWNEY.—We are still progressing satisfactorily with Phillips's shaft. The lode in the 52 fm. level, north and south, is very similar to my last report, and the ground is much the same; the stopes, in the back of this level, are producing a fair quantity of ore. The lode in the 42 north is without much alteration, worth 8*l.* per fm.; the stopes here, and to the south of the shaft, are producing about the usual quantity of ore. The lode in the 32 fm. level north is worth 5*l.* per fm. I cannot speak of any particular change in the stopes in the back of this level. We have resumed sinking Trelawney's shaft, under the 42, where the ground is rather hard, and set at 18*l.* per fm. The 22 cross-cut east is much as usual. The lode in the 30 fm. level, north of Vivian's shaft, presents a beautiful appearance, and is worth 8*l.* per fm.; and, from its character, there is reason to hope that this part of the sett, when developed, will considerably augment our returns.—Jan. 25.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce for November:—

Mines.	Tons ore.	Per ct.	Tons copper.
Raipas	82	6¼	5·02
United Mines	25	6	1·50
Ryper's	10	6	0·60
Mancur's	5	5	0·25
Michell's	12	6	0·72
Old Mine	10	6	0·60
Powder House	4	6	0·24
Carl Johan's	2	6	0·12
Cole's	2	4	0·08
Quœnvig	1	10	0·10
Total	153		9·23

Mining Report from the 12th to the 29th November.

Raipas.—The workings on Labouchere's lode continue to yield remunerative returns, and the prospects are equally promising. The lode in the 10 fm. level is regular, and about 6 ft. wide; it leaves good reserves, both in the back and bottom. The 5 fm. level is somewhat improved, and the lode has opened itself considerably. Monk's shaft is now sunk about 2 fms. below the 10, and the ground is favourable, but not orey; in the course of next month, we expect it will intersect Labouchere's lode. Carr's lode for a time deteriorated, and the produce was, in consequence, less; it has, however, again improved. The lode in the stope at the surface is irregular and unsettled, and its produce has been fluctuating. The long continuance of boisterous weather has greatly impeded the surface operations at this mine, which, situated at the top of a mountain, is more exposed than any of the others. We have as yet had scarcely any frost or snow, and are, in consequence, unable to return the produce of the mine to the smelting-house, but hope to do so by the middle of next month.

United Mines.—The several workings at this time promise permanent returns, and the ore, although less than formerly, is of an improved per centage.

Ryper's.—Since we have been prevented by the weather from carrying on the surface operations, the produce of this mine has considerably fallen off: the lode in the stopes has also deteriorated; and, unless some improvement shortly takes place, I fear the returns during the winter will experience a corresponding depression.

Mancur's.—After emptying a part of the water from the old workings, a great quantity of last year's ice was found, and some difficulty has been experienced in clearing it. The old mine has not yet been resumed, and the produce of this month is wholly tributers' ore, from some small branches.

Michell's.—The whole of this mine is working on tribute, and with tolerable success.

Old Mine.—This mine is also on tribute. Some fair returns are making from Bergmeister's, above the adit level: all the deeper workings are full of water.

Powder House.—The produce of this mine, although but little, still leaves a remunerating profit on the outlay; the prospects also continue flattering.

Carl Johan's.—Since the winter has partially set in, we have been obliged to remove the workmen to another part of the mine, where the returns will be less than before, but, I hope, not less profitable.

Coie's.—The lode is again much deteriorated, and we are now obliged to resume a tut-work bargain, in the most promising part, for the purpose of exploring it in depth.

Quenvig.—The quality of the ore returned from the new lode has exceeded our expectations. The quantity is only about three tons, two of which average 18 per cent., and the other 11. We shall not be able to explore this lode further during the winter; but we hope to resume operations on it early in the spring.

New Lodes.—The lode recently discovered below the old mine is now poor; it, however, contains spots of rich yellow ore, which may improve as we get into the mountain, when we may also expect to find a more regular lode. We have at present only two men exploring this part, and, in consequence of the extreme hardness of the country, their progress is very slow. Much of the produce will now, as usual during the winter, be set aside for picking and dressing next summer; both the estimates and returns will, therefore, in consequence, be less than the actual production.

Mining Report from the 30th November, to the 14th December, 1847.

Raipas.—The 5 and 10 fm. levels, on Labouchere's lode, have been somewhat disordered by a horse of limestone, which, in the early part of last week, divided the lode in both levels; the walls of the lode on each side of the horse are still regular, and the lode itself, although more compressed than before, is still productive, and equally promising. It is at present impossible to say what effect this horse will have on the produce of the workings in this part of the mine; but judging from its present appearance, we have no reason to anticipate any falling off in the returns. The stopes continue to yield the usual fair produce of ore, but on the whole the quality is not so good as we expected. The dark days at this season of the year, when all the ore dressing operations are performed by the aid of candles or lamps, offer many impediments to our progress in this department. Carr's lode is still fluctuating, but on the whole the produce has been satisfactory. A slight fall of snow has enabled us to resume the transport of the ore to Beeskop, and every dispatch will now be made with the usual deliveries to the smelting-house.

United Mines.—The stopes on Ward's lode are somewhat deteriorated, whilst at Woodfall's an improvement is visible in the tribute pitches; the produce during the present month will be rather less than that of the last, but the falling off will not be materially felt.

Ryper's.—No visible alteration since my last report.

Mancur's.—The old workings are now resumed on tribute, but the produce is still low.

Michell's.—The prospects have materially improved, the tributers have resumed several of the old workings, and are making small but profitable returns.

Old Mine.—The prospects are still good, and the tributers make fair returns. In Borgmeister's workings an increased number of hands might be employed, but the great quantity of water collected in this part of the mine, prevents our resuming any of the old stopes to the east of the sink.

Powder-House.—Two men only are employed here, the prospects continue promising, and the produce is good.

Carl Johan's.—The severity of the weather, and the dark days, have compelled us to suspend farther operations at this mine until the spring of next year, when we hope to resume them more advantageously.

Coie's.—The lode has again improved, and yields fair returns of ore; the produce, however, is still too low, and will not at present enable us to augment the deliveries to the smelting-house; if the present improvement continues, we hope in the course of a month or two to set some tribute pitches which will increase the returns.

Quenvig.—Two men are still working on the new lode on tribute; the ore is of a superior quality, and the returns, although very small, are still profitable.

New Lodes.—Two tributers employed in Matthisen's Valley have broken a small quantity of ore of a good per centage; the lode is, however, irregular, and the produce fluctuating. The new lode, below the old mine, is still poor, but the progress made in exploring it is also extremely slow—no other surface operations are at present carried on. Although the present report is less satisfactory than those you have latterly been accustomed to receive, I still do not consider the general prospects of the mines in any wise deteriorated, and the present falling off is attributable to circumstances attending this climate, which we always anticipate, and which invariably occur at this season of the year.

Carthew Consols.—This sett, which is situate 2½ miles west of Wadebridge, is extensive, embracing the old Legossic Mine, from which ores have been raised in the old workings to the amount of 150,000*l.*, and the adjoining ground, held under Francis Paynter, Esq., and others, at 1-15th dues, for a term of 21 years. The main lode, on which the old men's workings yielded returns to so great an extent, ranges nearly north and south, and the engine-shaft has been sunk to a depth of about 80 fathoms from surface. An adit level has been brought in, which is 36 fathoms at the engine-shaft, which latter has been sunk 47 fathoms, making in all 83 fms., below which a sump has gone down 7 fathoms. The ground worked away by the ancients is comparatively insignificant, when the quantity of ore raised is considered, not extending on the course of the lode more than 60 fathoms in the upper levels, while the workings in the lower do not extend beyond 10 fathoms, thus assuming a wedge-like form. Since the mine has passed into the hands of the present adventurers, the adit level has been cleared, and another lode opened upon, about 180 to 200 fathoms east of the old engine-shaft, which is a caunter, running in the direction of 33° west of south, on which an adit has been driven 50 to 60 fathoms, and, by continuation to hill, will intersect the old mine, and two other lodes, and drain them to the depth of from 50 to 60 fathoms in the elevated ground. It would appear, that on the former working, the adventurers confined their operations to the south part of the lode, a slide carrying it north, up to which point the workings were carried; but, being apprehensive of an increase of water, which might be assumed as being more than the engine could combat, the slide was never driven through; and hence the lode north of the slide has not been seen, except by costeaning, or shoding, by the present adventurers, at a distance of 200 to 250 fathoms from the old engine-shaft. A lode, running nearly east and west, was opened upon in the old workings; but, after having been driven upon 4 or 5 fathoms, the workings were necessarily suspended, the adjacent sett not being then secured. The adit level has been driven about 36 fathoms east from the south shaft, which will take the east and west lode mentioned, on driving 25 to 30 fathoms. An engine is about being placed on the old mine—66-inch cylinder—and flat-rods carried over to the valley shaft, for extensively working on Gray's lode, 18 in. underlay; where, for immediate exploration, a 24-feet wheel has been erected, 2½ feet breast. The adit level, driven in the old mine, on the course of the lode, is about 160 fms. in extent, and, as before remarked, is within 25 to 30 fathoms of the east and west lode. The adit has been cleared up in the old mine, and an adit driven on Paynter's lode, to the extent of 45 fathoms, a shaft having been sunk to the depth of 10 fathoms to hill, while the rising ground will give 60 to 70 fathoms backs. The engine-shaft at Paynter's lode is down 3½ fathoms under the adit, and the lode is 4½ feet big.

Wheal Barbara.—This mine is situate in the parish of St. Kew, near Wadebridge, and held under lease from Wm. Grose, Esq., for 21 years, from 1846, at 1-14th dues. The extent of the sett is 450 fathoms on the run of the lodes, being about 250 fathoms west, and 200 fathoms east, of the engine-house, and from 700 to 800 fathoms north and south. Three lodes have been discovered—the general range being about 10° north of west and south of east; an adit level has been driven on the most southern lode, which takes the engine-shaft at 4 fathoms depth—which shaft has been sunk 7 fathoms below the adit, and is expected to take the lode at a further depth of 6 to 7 fathoms—the underlay being 2 feet in a fathom. The lodes already discovered are parallel, within 20 to 25 fathoms of each other, and it is intended to put out a cross-cut, so as to prove them in depth. The engine-house is in course of erection, and will be completed in all February—the engine and boiler being upon the ground—the latter being 28 feet, with three feet tube, and 5½ case, weighing 8½ tons, so that active operations may be contemplated within little more than a month from the present time, when the capstan, shears, and other surface work will be completed. The surface work is going on, so as to have the dressing-floors in readiness—the several buildings, such as carpenters' shop, smithy, count-house, changing-house, &c., being erected. The engine is 21-inch cylinder, with a 9-feet stroke in the house, and 7-feet in the shaft; the pumps, which are upon the ground, and intended to be applied in the engine (Williams's) shaft, being 7-inch. About 33 fathoms east a shaft is going down—the present depth of which, from surface, is 5 fathoms, and it is intended to make a communication, with flat-rods, from the engine-shaft, so that the engine may command the two points of working. An adit level has been driven on the course of the lode about 80 fathoms; a cross-cut has been put out from the engine-shaft, at a 7 fathom level, which, having intersected the south, or Stephens's, lode, has been driven 10 fathoms east and 3 fathoms west, at that point. Three shafts have been sunk—viz., the engine-shaft, above referred to; Gray's shaft, 10 fms. further east; and Truscott's shaft, 23 fathoms, again to the east. The lodes, which, as before observed, are nearly east and west, underlay south about 2 feet in a fathom, and are from 2 to 5 feet big, being found to increase in size going east to hill—the adit being in a depth of 10 fathoms. There is a good stone quarry immediately contiguous to the engine-house. The situation of the mine is convenient for shipment of the ores—the land carriage not exceeding 2s. 6d. per ton, while coal may be delivered at from 13s. 6d. to 14s. per ton. The country is a kindly killas, but somewhat dark; which, however, in the locality, appears to be its general feature. The walls of the lode are regular in their character, and stand well, so as not to require any timber; the cost of driving on the lode being about 50s. to 60s. per fathom, while, in cross-cutting or driving in the country, the cost may be taken at 5*l.* to 5*l.* 10s. per fathom; the eastern shaft is going down on the underlay of the lode, and, in the course of sinking, it is contemplated will form a junction with the engine-shaft, when the lode will be taken at about 15 fathoms depth; this is expected to be accomplished in the course of six weeks, or two months, from the time of the engine going to work. There is an ample supply of water at the surface for condensing and the dressing-floors. The ground is favourable for sinking the engine-shaft, which is 9 by 6, and is set at 12*l.* per fathom, and the incline shaft, which is 9 by 5, at 6*l.* per fathom. A cross-cut has been put out north from Truscott's shaft, in the adit level, so as to intersect the second (Shearman's) lode, which is calculated will be effected in further driving two or three fathoms, when it is proposed to continue the same, so as to prove Pearce's lode, which is the one further north.

Abergwessin Mines.—A meeting of this company was held at the Bell and Crown, Holborn—Mr. George Pell in the chair,—at which a committee of five shareholders was appointed; the services of Mr. W. Pell were dispensed with; and Mr. P. P. Couch, the purser and manager, resigned his situation, but which the meeting refused to accept. An adjourned meeting was held on the following day, to examine and pass the accounts—which, together with a report, are to be printed, and forwarded to each shareholder. A call of 1*l.* per share was made.

UNITED MEXICAN MINING ASSOCIATION.

The usual half-yearly meeting of proprietors in this association was held at the offices, 44, Finsbury-circus, on Wednesday last, the 26th inst.

Sir John Easthope, Bart., in the chair.

Mr. Mather (the secretary) read the notice convening the meeting, the minutes of the last half-yearly meeting, which were confirmed, and the following

REPORT.

Your directors regret, that they are not able to present a more favourable account of the operations of the association. The unsettled state of the country has caused the article of quicksilver, not only to rise in price, but at times it has not been obtainable at any price: thus the operations in the haciendas have been greatly impeded; and, in addition to this difficulty, the rising of the water in the great shaft, has necessitated a serious additional outlay. The directors, however, feel pleasure in being enabled to state, that the former difficulty is now in a great degree overcome—quicksilver being obtainable in Mexico in large quantities, and at a reduced price; consequently, the haciendas are again fully and, it is hoped, profitably employed.

Mine of Rayas.—The directors have instructed the commissioners to prosecute the works of investigation, and the other proceedings in the mine, with a due regard to the equalization of the expenditure with the produce; and, whilst the prices of all mining stores have risen, the result shows a profit, though small, since the last meeting. Of the new works that have been commenced of late, one of great promise has presented itself; the character of the lode, and the quantity of ore already extracted, is of a very rich ley. The following statement shows the produce of dressed ores, outlay, and sales of ores on joint account with the buscones, since the 31st December last:—

	Dressed ores remitted to haciendas.	Amount of memorias.	Half sales of buscones' ores.
Cargas	21,108	$200,681 0 2	$52,401 2 0
Or weekly	458	4,362 0 0	1,139 0 0

The sum of $1882 7 5 has been received towards the mine debt, which is now reduced to $675,176 1 6.

Zacatecas.—From the unsettled state of Mexico, it has been impossible to take any further legal steps to enforce the claims of the association on the Mexican Government; the directors, however, do not lose sight of the great importance of this claim, and will not omit pressing it, when it can be done with advantage.

Oaxaca.—The hacienda of San Pedro Nolasco, as also the few remaining stores there, continue undisposed of; and the present state of the country does not afford any immediate hope in this respect.

Haciendas.—These establishments, consisting of Dolores, Barrera, and Duran, are in operation by the reduction of the ores of Rayas, and of ores on contract account. An advantageous contract has been made with a party in Guanaxuato, for the reduction of his ores at the hacienda of Dolores.

Finances in Mexico.—The available asset by the last letters was $72,409 6 4; exclusive of bonds on the treasury in the hands of our agents in the city of Mexico, for Arista claims on the Mexican Government, amounting to $6915 3.

Finances in London.—The directors beg to submit to the meeting the following audited account, from the 31st December, 1846, to the 31st December, 1847:—

Dr. *Mexican Mining Association—from 31st Dec., 1846, to 31st Dec., 1847.*

Brought from audited account to 31st Dec., 1846			£9325 6 8
Interest on Exchequer bills and money lent			221 8 2
Transfer fees and discount on stamps			9 3 0
Remittances from Mexico—specie	£5142 19 8		
" " —bills of exchange	5000 0 0		10,142 19 8
Total			£19,698 17 6

Cr.

Paid sundry creditors on 31st Dec., 1846, which sums have appeared under their respective heads			£ 191 2 4
On Mexican account—viz., 150 bottles of quicksilver shipped	£2538 4 2		
" " sundry payments	146 3 5	—2684 7 7	
London expenses for one year			1704 1 5
A piece of plate, presented to James N. Shoolbred, Esq., as a compliment for his services in Mexico, as per resolution of half-yearly general meeting of proprietors of 28th January, 1845			262 10 0
Red scrip—paid on unclaimed account			56 5 0
First dividend ditto			365 5 0
Second ditto ditto			260 10 0
Leaving assets			14,174 16 4
Total			£19,698 17 6

Leaving an asset on hand of subject to the following items—viz.:			£14,174 16 4
Auxiliary capital unclaimed		£1102 0 0	
Red scrip ditto		1532 15 0	
First dividend ditto		1486 0 0	
Second dividend ditto		1270 15 0	— 5393 10 0
Leaving a balance of			£ 8781 6 4

but subject to the reserved fund of 5000*l.*, and shipment of quicksilver.

London, Jan. 1848. John Mather, Secretary.

The Chairman observed, that the directors had, on this occasion, followed the plan they always adopted, that of laying before the proprietors a clear statement of the situation of their affairs; and they were prepared to answer any question which might be put to them on the subject of the report. They had, in that report, stated their regret at the present state of things; they wished they had had it in their power to have made a dividend, which would have been by far more agreeable. From the present state of Mexico, he thought there was no gentleman present but who would think that they had done right in withholding a dividend on the present occasion. The balance of funds in hand, it was true, was 14,000*l.*, but this was subject to the reserve fund, to the extent of 5000*l.*; unclaimed dividends, auxiliary capital, and scrip, remained to be paid to the amount of 5393*l.* 10s. There was the necessity of sending out quicksilver; they had been told in the report just read that that article was always excessively dear in Mexico, and latterly, on many occasions, none could be had for any money. There was now, however, a supply in that country, but the cost was, at least, 50 per cent. higher than if sent from this country; but, in doing so, they would run enormous risk, and the directors considered, in the present state of their finances, they had better pay the higher price and be secure. The last parcel they sent was 150 bottles, which had been five months on the road, while the usual period was two or three months; he thought it too much risk to have so valuable an article, one which was equal to money, and would sell in every corner of the country, *in transitu*, between the coast and its destination—these were the reasons which induced them to pay the higher price; but it was necessary to have funds in hand to take advantage of any favourable change which it was probable would soon take place. They much regretted that Mr. Gleunie, their manager, had made other arrangements in Mexico, and would probably leave them by the end of March.

The report and accounts were then adopted; and a vote of thanks having been passed to the chairman and directors, the meeting separated.

HOLYFORD MINING ASSOCIATION.

The half-yearly general meeting of shareholders was held at the offices, Great Winchester-street, on Wednesday last, the 26th inst.

E. Hunt, Esq., in the chair.

The advertisement convening the meeting having been read, the following report was submitted:—

REPORT.

Since the last half-yearly meeting, nothing requiring particular notice has occurred in the general management of the affairs of the association. The following balance-sheet, made up to 30th November, together with the statement of expenses, and produce of the mines, for the six months, ending Dec. 31, will show the position of the company's affairs—

Dr. *Balance-Sheet, from 31st May to 30th Nov., 1847.*

Cash in hand, per last account			£ 716 3 10
Net proceeds of ore received from February to June inclusive, less royalties		£10,352 17 6	
Less bill on account of Feb. ore, credited in last account		880 0 0	—9472 17 6
Total			£10,189 1 4

Cr.

Sundry expenses, salaries, travelling expenses, assays, *Mining Journals*, &c.			£ 128 15 9
Stamps for deed of conveyance			175 0 0
Dividend paid on 1000 shares, at 3*l.*		£3000 0 0	
Income tax paid to foreign shareholders		12 17 0	—3012 17 3
Cash in hand—at bankers, and petty cash			1827 2 9
Current expenses, working mines, &c., to 31st October			5045 5 7
Total			£10,189 1 4

Statement of Monthly Mine Cos's and Produce.

Dr.		Cr.	
July cost	£776 18 7	July—120 tons ore (est.):	£2137 12 0
August ditto	646 1 6	Aug.—100 ditto	1664 13 4
September ditto	778 15 5	29 ditto slimes	265 18 9
October ditto	960 16 11	Sept.—80 ditto ore (est.)	1406 8 0
November ditto	661 18 3	Oct.—70 ditto ditto	1246 18 8
December	538 5 4	Nov.—40 ditto ditto	712 10 8
Balance	3681 14 9	Dec.—35 ditto ditto	613 9 4
Total	£8047 10 9	Total	£8047 10 9

[The above return of ores are less royalties.]

Several circumstances have combined to prevent any division of profits in addition to the 3*l.* per share, paid in August last; a cargo of ore, shipped in September, the proceeds of which would have been applicable to a dividend, has, in consequence of accident to the vessel, not yet been disposed of; and the increased amount of surface and other work undertaken, have caused a corresponding increase in the expenses; while the quantity of ore raised has, for the reasons named in the subjoined report of Capt. Lyle, been much less than expected. As regards the ensuing six months, the directors anticipate that some dividend may be declared, but as the expenses will, inclusive of a cost of a steam-engine, probably be heavy, they recommend that the amount to be divided be left to their decision. The following report of Capt. Lyle, of the half-year's progress, and present prospects of the mines, appears very satisfactory.

TO THE HOLYFORD COPPER MINING ASSOCIATION.

Gentlemen,—I beg to hand you a report since your last meeting.—At Old Forge, we have driven the adit level east on the lode 20 fms.; the lode varies from 6 in. to 1 ft. wide, with gossan greens, and stones of good ore, and a very promising lode. We are now putting up a 28 ft. wheel, to draw the water out of the old sinkings—we expect to get the wheel ready to work in about a fortnight, and have sunk a new shaft from the surface to the adit level, which will come down, we expect, on the deepest part of the old sinking, and will enable us to see the bottom much sooner than we should by working from the old shaft. At Ballacown, we have cleared out the old level, and find the lode in the end to be small and poor, but am of opinion that it is the Old Forge lode; we have also cleared up a sinking in the bottom of the adit, where the lode is small, but there are good signes of ore in it, and rather a promising lode. At Holyford, we have driven the 22 fm. level north about 3 fms.; the end is nearly under the winze sunk in the bottom of the 17 fm. level; the lode in the end is about 6 in. wide, with small stones of ore. We have cleared the winze sunk under the 17 fm. level, where the lode is about 1 ft. wide, and worth about 10*l.* per fm. The 17 fm. level north is driven 6 fms. 3 ft.; the lode there has been small and poor, with the exception of the last 6 ft., where the lode has been about 15 in. wide, and good stones of ore. The lode in the end is now 16 in. wide; and in the bottom of the level, and for about 2 ft. high, and 1 ft. wide, there is a good stone of ore, mixed with spar. The 17 fm. level south is driven 7 fms. 3 ft., the lode small and poor; we have driven a cross-cut east in this level 6 fms. 5 ft., and have cut a small lode, but it is poor, and in hard ground. The 8 fm. level has been driven 23 fms.; the lode small, but has in some places made a good gossan, with small stones of ore—the end at present is hard. The adit level has been driven north 22 fms., where the lode has been more promising than in the level above, with the exception of the bunch of ore which we had about the third shaft in the 8 fm. level; this bunch of ore dipped to the south, and fell in with the other bunch of ores in the adit level—we have worked through this bunch from the 8 fm. level to the adit. The lode in the adit end, for the last 10 fms., has varied from 6 in. to 15 in. in width—very good; at this time it is 15 in. wide—solid ore; this is under the gossan, which we had in the level above; the ore has much the same appearance as the small stone which you have from ft. The third shaft is sunk from the 8 fm. level, 6 fms. under the adit; the lode in the last 3 fms. sinking, has a very promising appearance, with fine bunches of ore. The winze sinking under the adit on the course of ore, I am happy to say, is very much improved; we are now down 2 fms. The lode, when we commenced sinking, was about 2 ft. wide solid, it is now 4 ft. wide, 3 ft. solid, and will produce 20*l.* worth of ore per fm. We have driven a cross-cut south in the 8 fm. level, 20 fms., and have cut the western lode about 3 fms. from the Holyford lode, where there are some stones of ore, but the lode is small—we have not opened on the course of it. From the improvement in the lode in the adit level, and the increase of the lode in the winze sinking under the adit, I think the mine is looking more favourable than at your last meeting. We have not raised so much ore as we expected to have done the last six months, and the reason for our not doing so is, we expected to have been able to break 300 or 400 tons under the adit; but we have been prevented from doing so by the water. John Lyle: *Holyford Mines, Jan.* 21.

In order to avoid, as much as possible, the delay and irregularity in the workings caused by the variable amount of water-power at command, and considering that the continued appearance of ore ground justified such outlay, the directors have agreed for the purchase of a steam-engine (above adverted to), which will be erected without delay. The directors' and auditors' term of office expires at the present meeting; but they are re-eligible, and offer themselves for election accordingly.

The report having been adopted, the directors and auditors were re-elected, and thanks voted to the chairman, when the meeting adjourned.

WEST WHEAL MARIA.

At a two-monthly meeting, held at the offices, St. Michael's-alley, Cornhill, on Thursday last, the 27th inst., the statement of accounts, presented by the finance committee, was examined and passed, showing bills due for costs and merchants' bills, as furnished by the late purser, 1963*l.* 14s. 2d.; payment made by committee, 668*l.* 19s. 11d.: leaving balance against the adventurers of 1294*l.* 14s. 3d.; from which deduct cash in hand, 433*l.* 8s. 6d.—leaves net balance against the mine of 861*l.* 5s. 9d. It was then resolved—"That the committee of management have authority to take such legal proceedings as they think fit, against any of the shareholders in arrear, and to make such compromise, by accepting surrenders of shares, in satisfaction of calls, as may seem to them most consistent with the interests of the solvent shareholders."—"That a call of 10s. per share be made, payable immediately to the London Joint-Stock Bank, to the account of the committee."—"That, in accordance with the opinion of Capts. Phillips and Ellery, as expressed in their report, the present operations be confined to sinking the engine-shaft."

The following report from the agents was then read:—

The first point to which our attention was directed was the eastern engine-shaft, which has been sunk on the course of the lode from surface, and is about 43 fms. deep; the lode in the deeper point is about 3 ft. wide, composed of spar and mundic, with spots of ore in places. From this shaft, a level (the 38) has been extended west about 11 fms., in which the lode is, on an average, 5 ft. wide, composed principally of spar and mundic, with spots of ore. It should be observed, the lode in the present end is not quite so wide as it has generally been throughout the drivage. Looking at the general character and appearance of the lode in this part of the workings, coupled with the facts, that the shaft is sunk within 10 fms. of the eastern boundary of the sett; and the 54 fm. level, east of the western engine-shaft, having been extended on the course of this lode, therefore, to within 13 fms. of this shaft, we would not advise a resumption of operations for the present; we then directed our attention to the western engine-shaft—this being the deepest and most important, in respect to the explorations being more extensive than in the eastern part; the shaft has been sunk on the course of the north lode, and is 68 fms. deep. In the 34 fm. level, a cross-cut was driven south, and cut the south lode, on which a level has been extended for about 26 fms. east, and 9 fms. west; a few fathoms east of the cross-cut, a cross-cut has been driven north to cut the north lode, but not opened on—the lode in this place not having a very good appearance. The 44 fm. level has been driven east about 48 fms. on the south lode, and a few fathoms east of the cross-cut from the engine-shaft; this lode forms a junction with the north lode; and, at this intersection, a good course of ore was met with, which lasted to the level above, and for some fathoms in length, from which, to all appearance, some considerable returns were realised. In the 54 fm. level, the south lode has intersected the north lode, about abreast of the engine-shaft; this level has been, consequently, extended on the course of the latter for a distance of nearly 60 fms., or to within 13 fms. of the engine-shaft, and 23 fms. of the boundary of the sett; this level throughout has proved unproductive. It should be borne in mind, that the north lode, on which the engine-shaft has been sunk, inclines south, and the south lode in a contrary direction, approximating as the lodes goes east—consequently, a cross-cut in this level has been driven north some fathoms east of the intersection of the lodes, in pursuit of the south lode, but without success. The general character of the lode, as presented in these levels, with the single exception of the deposit of ore already alluded to, is not very promising. There is a cross-cut being driven south from this level, in the hope of meeting with a highly-promising lode, recently cut in Wheal Williams Mine to the west. Having briefly given a general view of the nature of the lode, and the extent of the workings, we deem it necessary to make such suggestions for the future prosecution of the mine, as, in our opinion, may prove the most advantageous. We would recommend the 64 fm. level being driven west from the engine-shaft, on the north lode, by six men, as in this level a plat is cut, 10*l.* fixed, and every other preparatory arrangement made for the purpose. Our only inducement for recommending the prosecution of this level is, that as nothing whatever has been done on the course of the lode west, and the workings east having been but very partial, there is a probability of some discovery being made. We would suggest the suspension of the cross-cut south, in the 54 fm. level, until the lode it was commenced to cut has been operated on more by the Wheal Williams party, and thereby proved to be passing through this sett, as at present great uncertainty exists. The engine-shaft being now 4 fms. under the 64, and every necessary preparation being already made, we would recommend the sinking the shaft to the 70, by eight men, as it will increase the chance of further discovery, and more effectually develope the lode. There will be nothing more required for the prosecution of these two objects, but the labour cost, as there are sufficient materials on the mine, for the purpose, and the cost for which, including engine charges, coals, &c., superintendence, smiths, &c., will be about 120*l.* per month.

The confusion in which the affairs of the company was found by the present committee of management has imposed on these gentlemen a very arduous and important task. They have, however, accomplished the object after much individual labour, and brought the affairs into a systematic form, and received a large portion of neglected back calls, as well as paid off nearly 670*l.* of liabilities, within the last two months.

Clerkenwater Mines.—At a meeting of adventurers, held at Oliver's Hotel, Bodmin, on the 20th inst.,—James Liddell, E-q., R. N., in the chair,—the following report was read:—"Agreeably to your request, I have carefully inspected the above mines, and report as follows:—Two or three lodes have been discovered in this sett, but only one has been operated on, and that to a limited extent. This is the Pill Wood lode, which is very properly considered to be the main lode; the bearing of which is about 25 degrees east of north (agreeing with that of almost all the lead lodes in this country). An adit is driven northwards on its course 30 or 40 fathoms. The size of the lode varies from 2 to 4 and 6 feet in width, with a very moderate underlie of from 15 inches to 2 feet in a fathom. It is chiefly composed of common spar and prian, and crystals of carbonate and arseniate of lead are also found in it, but not plentifully. Some good bunches of blue lead ore are also found in the north adit, especially near the vale. The character of the lode here presents a very inviting appearance. The lode in the present end north is large, with here and there a stone of lead, but not so plentiful as near the valley. An engine-shaft has been sunk about 14 fathoms from the surface, in which, at about 9 fathoms from the present end, a caunter lode, or spar course, is found, the bearing of which is 1° 30′ east of north-east, with a flat underlie of 4 feet in a fathom. Some doubts have hitherto been entertained as to its being the main lode, but I am decidedly of opinion that it is not, as three important things make against it—viz.: the bearing, the character, and the underlie. With regard to your future operations, I would recommend you to suspend the cutting through of the caunter lode to the west of the shaft, and continue the sinking of the shaft by nine men—six miners, and three on wages. I would also recommend you to suspend the north end, and put the same men to sink a winze on one of the chimneys of lead near the mouth of the adit. The winze should be carried 8 feet long, and a good width, so as to serve for a shaft, if needed. This being done will prove whether the lead makes in depth or not. There is no doubt but that ore enough will be found in the winze to pay for sinking it, and also help the cost of the shaft. The advantage of doing this will be seen, if you contemplate driving towards the engine-shaft, which, by holing, will both expedite the work and ventilate the mine. Should the water prove quick, it can be kept by connecting a run of flat rods to the bob on the shaft. The angle can be broken, by working a chain round a horizontal shieve—a common whim-shieve will do for this purpose. I have no doubt, but that ultimately it will prove a productive mine."—It was then resolved, that the winze be sunk on the lode in Pill Wood, as deep as the same can be effected, by four men and three labourers, with the aid of a pump, or other temporary machinery; and that, in the mean time, the driving of the end on the same lode, be discontinued.

North and South Wales Bank—Resumption of Business.—We have the pleasure of announcing, that the directors have just concluded satisfactory arrangements for a general resumption at the various branches; and that, at a meeting of the directors, held yesterday, it was resolved to commence business forthwith. This will be read with great satisfaction, not only by persons in this town, but by the residents in the principality, where the general feeling in favour of the bank has been that of sympathy and support. We are informed, that the directors and manager have displayed great energy and prudence under the trying circumstances in which they have been placed, and that they richly deserve the best thanks of the depositors and shareholders.—*Liverpool Mercury.*

THE DUTIES ON FOREIGN COPPER ORES.

A meeting was held at Pearce's Hotel, Truro, on Friday last, in pursuance of public notice, for the purpose of appointing a deputation to consult and advise with the county Members, on the steps that should be adopted for the protection of that portion of the population of Cornwall interested in working the copper mines.

The Right Hon. the Earl of FALMOUTH was called to the chair by unanimous acclamation.

Amongst those present were Sir C. Lemon, Bart., M.P.; W. H. P. Carew, Esq., M.P.; T. J. A. Robartes, Esq., M.P.; Ennis Vivian, Esq., M.P.; J. T. Treffry, Esq.; J. H. Tremayne, Esq.; N. Kendall, Esq., our respected high sheriff; J. S. Enys, Esq.; Joseph Carne, Esq.; Thomas Simon Bolitho, Esq.; Richard Pearce, Esq.; Stephen Davey, Esq.; Alfred Fox, Esq.; Carteret J. W. Ellis, Esq.; John Rule, Esq.; W. C. Marriott, Esq.; &c., &c., &c.

Lord FALMOUTH, in opening the business, very ably detailed the object of the meeting, and observed that, as it was one of a purely local nature, need not at all provoke a discussion on general principles of trade and commerce.

After which, Sir C. LEMON, in a very lucid and able speech, proposed the appointment of a deputation.—This was seconded by Canon ROGERS.

An amendment was proposed by CARTERET J. W. ELLIS, Esq., and seconded by W. K. NORWAY, Esq., merely, the latter remarked, for the purpose of bringing it before the meeting. The amendment was supported by the mover and seconder; but the original motion was carried—every other person in the room voting in its favour.

It was then proposed by J. HEARLE TREMAYNE, Esq., that the deputation should consist of the High Sheriff (N. Kendall, Esq), Joseph Carne, Esq., Thomas Simon Bolitho, Esq., and Alfred Fox, Esq. This was seconded by RICHARD PEARCE, Esq., and carried unanimously.

A resolution was then proposed by Canon ROGERS, and seconded by J. E. VIVIAN, Esq., to the effect, "that an assessment should be made of 1-16th part of 1d. in 1*l*., on the value of all copper ores raised in the county in the current six months, to defray the expenses consequent on this measure. This was carried unanimously—as was a hearty vote of thanks to his lordship for his able conduct in the chair, in acknowledging which, the noble Earl very feelingly adverted to the distress which had prevailed last year amongst the mining population, and deprecated the introduction of any measures which should depress that important branch of our staple productions.—*Penzance Journal.*

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

POLSAITH CONSOLS.—We have driven towards the lode from Victoria shaft 6 ft., and expect in a fortnight to cut the lode; I have a good hope it will be a good one. Taylor's shaft is down 11 fms. 5 ft. 6 in.—ground favourable, and water quick. I think we shall be down, in order to drive towards the lode in a fortnight; and, in three weeks after, I expect, if the ground continue favourable, to cut the lode; I am decided in opinion, from the appearance of the lode in the adit, and, shortly after, that we shall be able to declare our independence. Victoria shaft is the Trebetherick side, and is sunk 12 fms. below the adit level—so that we shall have a back of 12 fms. to stope from, with the exception of a few places, where the former party sunk after the lead. Taylor's shaft is at the new workings on Tinner's Hill, where the greatest expectations exist; this shaft will be sunk more than 12 fms., as we intend driving at the same levels, from the bottom of each shaft, with a view of meeting regularly in the communication of the level from the shafts, to do which we shall have to drive under the valley.

TIN VALE is a Wheal Maria. The company only began to work in November; and, before they paid any cost, two pitches are at work on tribute, and a lode, 3½ feet big, cut rich. In fact, the company, I hear, has not laid out 200*l*. beyond the purchase money.

THE PHŒNIX MINE, and others here (Liskeard), have recently cut rich. The Phœnix, worked by a Manchester company, after being *fifteen years* all outgoing, has now cut rich enough to reimburse all cost. They bring up the ore in *bags*—it is so pure.

WHEAL VENLAND.—The engine-shaft is sunk to the 30 under adit, and cross-cuts extended both north and south to cut the lodes; in driving north about 8 fms., a fine branch was cut, about 1 ft. big, worth from 4*l*. to 5*l*. per fm.—and some of the most experienced men in the neighbourhood say, that if the north lode cut as rich, of which they have not a doubt, every 100 kibbles will give 9 tons of ore; we expect in 4 or 5 fms. more to cut this lode. In driving south, also, a branch, near 1 ft. big, was cut, with fine ore in it—not so rich as the north one; in about 2 fms. further driving, it is expected to cut this lode, and will occupy about a fortnight.

TRESAVEAN AND TRETHELLAN.—A meeting of adventurers in Tresavean, Trethellan, and West Trethellan Mines, was held in the Tresavean account house, on Tuesday last, when the accounts were examined and passed as follows:—*Tresavean:* By balance at end of October, 572*l*. 14s. 1d; ores sold (less dues), 2826*l*. 4s. 9d.; sundry credits, 203*l*. 9s. 10s.=3602*l*. 8s. 8d.—To costs for Nov. and Dec., 2994*l*. 19s. 4d.: balance in hand, 607*l*. 9s. 4d.—*Trethellan:* By balance at last account, 600*l* 15s. 6d.; ores sold (less dues), 527*l*. 5s. 5d., Brewer and West Trethellan adventurers, 185*l*. 17s. 9d.=1313*l*. 18s. 8d.—To costs and merchants' bills, 409*l*. 0s. 2d.; dividend of 5*l*. per share, 600*l*.=1009*l*. 0s. 2d.: balance due to adventurers, 304*l*. 18s. 6d.—*West Trethellan:* To balance at last account, 150*l*. 4s. 11d; costs, &c., from Feb. to Dec. 1302*l*. 14s. 10d.=1452*l*. 19s. 9d.; by ores sold (less dues), 945*l*. 2s. 2d.; call made in last March, 1847, 480*l*.=1,425*l*. 2s. 2d.; balance now due, 27*l*. 17s. 7d. A call of 3*l*. per share was made for West Trethellan.

MINE ROBBERY.—On the 21st inst., Nathan Ridington, of Breage, and John Rogers, of Crowan, were committed by the Rev. F. Pascoe, of St. Hilary, charged with stealing a quantity of brass, from Godolphin and Wheal Maria Mines, situate in the parishes of Breage and Crowan.

ETHER AND CHLOROFORM.

Prof. Brande delivered a lecture on the recently-discovered anæsthetic agents, ether and chloroform, to a numerous audience at the Royal Society, last night. Among those present, we observed Lord Campbell, Lord Newry, the Chief Baron of the Exchequer, and a number of scientific gentlemen. The learned professor began by observing, that ether was first noticed about the year 1540 by the pharmaceutical chemists; but it received its present name in a paper which appeared in the "Philosophical Transactions of the year 1730," which was supposed to have been written by an assistant of Boyle's. Its properties were investigated by Newton, and its discovery was ascribed to him. Berzelius and Liebig investigated the theory of its composition. Chloroform was noticed by Liebig, and its composition was investigated by him and Dumas. One atom of ether was composed of four atoms of carbon, five of hydrogen, and one of oxygen; one atom of chloroform was composed of two atoms of carbon, one of hydrogen, and three of chlorine. They were both derivatives of alcohol. The specific gravity of ether was about 616 or 617; it boiled at a temperature of 96; it was never frozen; but it produced a great degree of cold. Its weight, as compared with air, was 2½ to 1. The products of its combustion were carbon and water, when ignited by flame; but, if burned without flame, it produced a very pungent acid. Chloroform boiled at a lower temperature than ether; its vapour would burn, if heated very highly; but, if mixed with spirits of wine, it burned very readily, and emitted smoke, and a strong muriatic acid. It was very dense and heavy.

Such were the principal characteristics of these two bodies. Now, with regard to their physiological effects. If 50 per cent. of ether was mixed with air, it could be breathed. But the ether must be pure, because, if impure, it produced great irritation and coughing. On breathing a mixture of this kind, a series of very curious phenomena arose, which were beautifully arranged by Dr. Snow into three or four classes. In the first stage, an agreeable and exhilarating effect was produced, which did not render us insensible to pain, or make us unconscious of what we were doing. In the second stage, the mental functions and voluntary actions were irregularly performed - persons were unconscious where they were, but they generally did what they were requested to do, though sometimes in this stage they were obstinate, and very intractable. This was the principal stage of dreams, when they passed rapidly and vividly through the mind. A person would not be insensible to pain in this stage, though in passing to the first stage he would not probably remember what he suffered. Persons could not be operated upon in this stage, in consequence of the involuntary struggling with which it was attended. In the third stage, the mental functions, and, consequently, voluntary motion, became torpid; but muscular motion might take place, as the result of external impressions. Respiration went on regularly. If a person was spoken to, or roused, he might be made sensible of what was going on; but generally he lay still, and, if sitting on a chair, he had a tendency to fall off. The limbs were sometimes contracted in this stage. Persons may moan while in it, but they never uttered articulate sounds. In the fourth stage there was no movement, except that of respiration—the muscles were relaxed—the eyelids drooped—the pulse was quick—the breathing was stentorous—the countenance placid—and, possibly, persons were insensible to every degree of pain. They never snored till in this stage, and they were entirely insensible to what was going on. If the process of inhalation was discontinued, the person relapsed into the third stage in the course of three or four minutes, and so on, from the third to the second and first. The fifth stage was only witnessed in the inferior animals, and was productive of death.

Chloroform produced the same degree of narcotism as ether, and caused analogous effects. It entered into the blood, and with the blood passed to the brain, and there produced the effects he had described. He would not enter into the question whether a person might not feel pain in the fourth stage, although he might not afterwards remember it. That was an interesting question, but it belonged to metaphysics, rather than to physics. Another very important question, which, however, did not come within his view, was, what were the advantages of the two agents—was one more safe or more dangerous than the other? He believed that all the evidence they had went to show that chloroform was more dangerous—at the same time it was more manageable. It was more dangerous, because it was more powerful, and an overdose of it might be more easily given than of ether. In all other respects chloroform must be preferred. It was sweet, it produced its effects more rapidly, and caused very little suffering in administering it. The question of the respirability of these vapours was very important, and when combined with the singular and marvellous influence which they had on the vital energies, and the management which they possessed over them, it announced the approach, if not the arrival, of that long-wished-for era in physiology and surgery when so many of the pains that afflicted humanity might be removed. The effects of these agents should teach them also that no new discoveries in chemistry should be called useless, because, trifling as they might seem, one of them might do for chloroform what chloroform did for ether. The learned professor concluded his lecture amidst applause. Towards the conclusion of it, he subjected a guinea pig to the influence of chloroform; and, for the space of four or five minutes, it lay apparently lifeless, and then showed signs of life.

PREVENTION OF ACCIDENTS IN MINES.

A commission of mining engineers assembled a few days ago, at the coal-pit of Bois d'Avroy, near Liege, to witness the trial of a new invention, by Mons. Jouquet, for preventing the accidents of frequent occurrence by the breaking of the ropes used in raising the boxes filled with coal from the pit to the mouth of the shaft. The trial succeeded completely. A box, filled with its ordinary weight of coal, was raised to the height of 300 yards, and then the ropes were cut; but the box, instead of falling, sunk only a few inches down the upright posts, between which it was raised, then stopped and remained firm—leaving no doubt of the efficiency of the apparatus.—*Paris paper.*

This is, to say the least of it, a "curious coincidence." As long since as the 18th September last, we gave the entire specification, with diagram of Messrs. Foudrinier's apparatus for preventing the fall of the corves, in case of the rope breaking. Has M. Jouquet seen this? At all events, from the above short paragraph, it appears very much like the same machine; and the *Mining Journal* bears testimony, that at all events our English patentee is some months ahead of M. Jouquet.

THE COAL TRADE—IMPORTANT FACT.—A letter from Portsmouth, of Wednesday last, says—"We have seen to-day an excellent specimen of coal brought home by the *Cormorant* from Vancouver's Island. It is considered by competent judges to be of good and serviceable quality, and equal to any that can be obtained in the British mines. It abounds, we are told, in immense quantities on the surface of the above island. Coal has been supposed to abound in the above neighbourhood; but we are not aware of the fact ever having been proved before—a specimen has been sent to the Admiralty. The *Cormorant* called at Vancouver's Island on her passage home, and paid only *four shillings per ton* for the article, which was brought alongside the steamer in canoes, 800 in number; at the same time Government were paying 16*l*. per ton at Valparaiso for the same article. So extraordinary a fact is sufficient to induce (we should think) the taking up of merchant tonnage by the Government for the shipment of this coal, and its conveyance to Panama, or some other depôt where our cruisers need it, when, it is believed, it would cost the Crown no more than 1s. per ton. The mills are much increased all down the coast, rendering this mineral indispensable. The straits (Puget's), between Vancouver's Island and the main, are only three miles in width, and the shipment and transport is easy. The population alongshore, however, is a mixture of Indians of all classes, and great caution is rendered necessary in treating with them, or the white man will be worsted in the bargain in more ways than one.

TIN MINING IN MALACCA.—The late accounts corroborate the particulars already published respecting the spirit of animation now pervading this place, owing to the enterprise of Chinese merchants. In addition to the extensive mining operations, ship-building has been commenced, the abundant forests of Malacca, stored with woods second only to teak, offering peculiar advantages. In our last accounts, we noticed that some American gentlemen had undertaken to open tin mines at places bordering on the Malacca territory; we now learn that Yeam Tuaw, the Rajah of Salengore, and his brother, Rajah Jarmahomed, who reside at Lánghát, have rented the island of Lánghát to the American miners for 50 Spanish dollars per mensem, and a present of 350 Spanish dollars at the time of signing the grant.

ANTIMONY MINES AT BORNEO.—Messrs. Burns, Nichol, and Losé, three gentlemen at Singapore, have obtained from the Sultan of Borneo a lease for 20 years of the antimony mines at Bintooloo (to the northward of Bruni), for the sum of 3000 Spanish dollars annually. The effect of this will be to cut up Mr. Brooke's monopoly at Sarawak, and will reduce the price of antimony, which Mr. Brooke, by monopolising, raised from 7 to 20 Sp. dol. per cwt.

DEPARTURE OF MR. BROOKE FOR BORNEO.—This gentleman takes his departure with his new powers, as Rajah of Sarawak, in a few days, in the frigate *Meander*, now lying at Portsmouth. Mr. E. Whitley Baker, the author of the several communications which have appeared in our columns on the explosion of the Thames steamer *Cricket*, and an old and frequent contributor to the *Mining Journal*, has been gazetted as first-class assistant engineer, R.N., and proceeds with Mr. Brooke, as engineer, in the frigate's launch, having paddle-wheels, and a pair of small engines, as auxiliary power. Mr. Brooke proceeds to Portsmouth, to join the frigate on Monday. Lieut. Hosken, R.N., late of the *Great Western* and *Great Britain* steam-ships, was entered in last evening's *Gazette*, as promoted to the appointment of master attendant and postmaster of the island of Labuan, and who also goes out in the *Meander*.

THE GEOMETRICAL RAILWAY.—Our readers will not have forgotten the lengthy descriptions and discussions which we published in former Numbers of the *Mining Journal*, relative to Greenhow's geometrical railway. We have been informed, on good authority, that, at length, the numerous objections to the principle which existed among practical engineers no longer exist; and that its intrinsic merits will be soon developed in the construction of railways in Canada, which are to be laid down on this principle.

WEST CORNWALL RAILWAY.—A meeting of the shareholders in the West Cornwall Railway, representing between 2 and 3000 shares, was held at the White Hart Inn, Launceston, on Monday the 24th inst.; and we understand that the conduct of the directors was very freely canvassed, and that a deputation, including Mr. Gurney, of Launceston, was appointed to proceed to London, to attend the meeting, called by the directors for Monday next. Impressed with the conviction that the line, when made, will be a highly remunerative one; the assembled shareholders were unanimous in the opinion, that it ought to be vigorously proceeded with, as soon as a directory can be obtained that would secure the confidence of the proprietary.

RAILWAYS IN GERMANY.—During the years 1846-47, about 150 geographical miles have been given up for railways in Germany—of these, 59½ miles have been constructed by several states, and 190½ miles by six companies. During the year 1846, about 175 miles were laid out in lines in the north of Germany; the united length of the railways amounts to 470 geographical miles. In Austria, 135; and along the Upper Rhine, about 60.

PERLBACH'S PATENT PROCESS OF UNITING WROUGHT-IRON AND CAST-IRON &c.

[Patent dated January 23, 1847. Specification enrolled January 23, 1848.]

The nature or object of this invention is said to consist in an improved method or methods of securely uniting certain metals and alloys of metals of different properties and values together—as, for example, wrought-iron with cast-iron, or copper with cast-iron, or gun-metal with cast-iron, whereby compound pieces of metal suitable for beams, girders, ribs, gudgeons, railway chairs, wheels, axles, and other parts of machinery and mechanical structures, may be produced, possessing all the aggregate weight and cohesiveness required, but much harder and stronger in some parts—such, for example, as those exposed to friction or to direct strain—than in other parts.

Of the great utility of such a process as this there can be no question. We have seen some specimens of wrought and cast-iron thus combined together, which resisted every attempt of a powerful hammer to separate them. The following are the details of the process:—"To unite cast-iron with wrought-iron, as, for example, to make a rectangular beam which shall consist of one-quarter of its thickness of wrought-iron, and three-quarters of cast-iron, or of these two metals in any other given proportions, I proceed as follows:—I take a piece of wrought-iron of the quarter, or other required thickness aforesaid, and immerse it in a cleansing bath of nitric, or any other suitable acid, diluted with water. I next remove it from the bath and make it red-hot, whereupon I plunge it once more into the cleansing bath. By these processes it is freed from any oxide which may have formed upon it. Then, in order to get rid of the acid which may be adhering to it, I wash it with an alkaline solution (as ammoniac for example, diluted in water), immediately after which I immerse it in a bath of melted tin, and leave it there till it is well tinned over. I next coat or cover the tinned wrought-iron on that side where it is to be united to the cast-iron with an alloy or solder, composed of copper and tin in the proportion of about 5 parts of copper to 95 parts of tin. The wrought-iron thus prepared is then dropped into the bottom of a mould of a size and form corresponding with that of the compound beam desired to be produced, and made fast by well-tinned pins and nails; iron, in a hot and fluid state, is next poured upon the wrought-iron till the mould is filled, when a fusion takes place between the surfaces of the wrought-iron and cast-iron, through the action of the interposed alloy, or solder, of copper and tin, and the two principal substances become so firmly united together, as not to be easily detachable, if at all.

"To unite steel with cast-iron, I adopt the same method in all respects as has been just directed to be followed in regard to wrought-iron and cast-iron. To unite copper with cast-iron, or gun-metal, and cast-iron, or brass and cast-iron, or any other of the alloys of copper with cast-iron, I also make use of similar means to the preceding—only, instead of freeing the surfaces of the metal to which the cast-iron is to be added by acid and alkaline solutions, and heating as aforesaid, I effect this by filing merely, and add the iron at a lower degree of heat—so that it may not melt the body of the copper, gun-metal, brass, or other alloy. The proportions before directed to be observed in the composition of the alloy, or solder, are such as will be suitable to be observed, when the compound piece of metal is of a medium size; but when it is above that size, and according to the ratio in which it exceeds it, the quantity of copper used in the alloy should be increased.

"In the exemplifications before given, the different metals have been supposed to be united laterally, or side to side; but one metal may have another united to it on both sides, or be enclosed by it on all sides, and the pieces may be also of any curvilineal, angular, or other form; the mode of casting being varied to suit the circumstances of such case, according to the practices in common use among founders."—*Mechanics' Magazine.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 9 per Cent., 200 2
3 per Cent. Reduced Ann., 89¾ 90
3 per Cent. Consols Ann., 89¾ ⅞
3 per Cent. Annuities, 86¾
3½ per Cent. Ann., 90¾ ⅞
Long Annuities, 9
India Stock, 10½ per Cent., 242
3 per Cent. Consols for Acc., 89¾ ⅞
Exchequer Bills, 1000*l*. 3d., 31 5 6 pm.
Belgian Bonds, 4½ per Cent., 91
Dutch, 2½ per Cent., 54 ⅝
Brazilian, 5 per Cents., 83
Chilian, 6 per Cents., 91
Mexican, 5 per Cents., 18¾ ⅞
Spanish, 5 per Cents., 22½ 1¼
Ditto 3 per Cents., 32½ 2
Portuguese, 5 per Cents., 79¾ 80
Russian, 5 per Cents., 109

MINES.—There has been a fair proportion of business transacted in the mining share market during the week, and the general inclination is to purchase: buyers are bidding lower than quoted prices, still we think the shares have maintained a fair price.

Devon Great Consols have continued in demand; and although no important business has been done in them this week, yet before our next we fully anticipate several transactions will have been completed. The reports which have reached us this day are of a highly important character, inasmuch that new lodes are about being developed, which have not been seen before at any depth; but as another week will speak more of the nature of the discovery, we will defer further notice.

East Wheal Friendship, one of the new mines to which we referred a short time since, has been brought before the public during the week and we learn that not more than one-third of the shares remain unappropriated. We can make no remarks on the prospects of the sett after the reports of such agents as Mr. Hitchens and Capt. R. Edwards.

South Wheal Betsey, a lead mine in the same locality as the above, has been recently taken up, and some important discoveries made, inasmuch that shares have changed hands at a considerable premium.

Shares in the following mines have changed hands during the week—viz.: Mendip Hills, Trehane, Herodsfoot, West Wheal Maria, Mary Ann, Wheal Franco, Plymouth Wheal Yeoland, Tavy Consols, Treviskey and Barrier, Caradon Wheal Hooper, Condurrow, South Wheal Tolgus, Great Wheal Rough Tor, South Wheal Betsey, Devon and Courtenay, Great Resugga Moor, South Wheal Francis, &c. &c.

The present low standard for copper ore, given by the smelters, produces a very serious effect to mining adventurers generally; and should it continue, we have little doubt of the temporary suspension of many of our mines which have been working to a profit, but now to a loss. We cannot understand upon what data the smelters make their calculation (without the all-absorbing interest of self-aggrandisement) when we contemplate the price allowed for the ores and that of fine copper. It has been asserted, that the stock of copper in hand is large, and the demand limited, or rather that the transactions are comparatively few, in consequence of the uncertainty of payment, arising from the late pressure in our monetary market, out more especially with our distant colonies, whose solvency or real position cannot be as yet ascertained. With respect to the stock on hand, we are creditably informed it is *small*, and the demand for some sorts barely keep pace with the manufacture. The profits to the smelters must, therefore, be immense; and when we consider the price of fine copper quoted at 101*l*. per ton, when the standard was 130, and the sales of ores considerably above our present ticketings, we cannot avoid thinking that the smelters must be blind to their prospective interests in thus suppressing the industry of our working miner, and to an injurious extent the energies of the enterprising adventurer.

At the present period, when we find a more than common desire to develope the mineral resources of the United Kingdom, we should feel more gratified could we congratulate our friends on the encouragement afforded by a standard that would enable returning mines to meet in some measure their expenditure, particularly when we notice a great falling off in the sale of copper ores. But if new mines can stand against the present discouraging circumstances, the change, which we hope will shortly take place, will be hailed with sincere delight by all interested in the prosperity of the mining interests of Great Britain.

There has been several transactions in the foreign share market during the week, but some of the shares have not maintained former quotations among these may be noticed Asturians, Bolanos, &c.

Business has been done in Kinzigthals, Australians, Imperial Brazilians' Altens.

The United Mexican Mining Company held their half-yearly meeting on Wednesday last. The report presented by the directors expressed their inability to declare a dividend, in consequence of the unsettled position of the country, and the impossibility of procuring quicksilver at a price to render the produce of the mines marketable. The financial statement exhibited a surplus of 7871*l*., carrying 5000*l*. to the reserved fund, exclusive of about 80,000*l*. in the hands of the company's agents. The position of the mines, and the company's affairs generally, were considered satisfactory.

By the *Indian Mail*, we learn the state of the metal market in our colonies there.

The Calcutta market, generally, is represented as being dull. Copper has alone advanced. Spelter, iron, and lead maintain their quotations; although but little doing.

At Bombay, we find that lead has declined a little. Iron continued firm, but transactions have been of a rather limited character. Some sorts of the stock appear to be scarce, which will enable holders to dispose of inferior stock at advanced prices. Copper continues in demand, with a scarcity on hand. Sheet is not to be found in the market.

The *Hong Kong Register* states, that the iron market has advanced, and several transactions have taken place. Lead has fallen in price, without any apparent cause. Tin continues scarce. Plates are firm, although no sales of consequence have taken place.

RAILWAYS.—On Monday the share market was somewhat brisk, but without any marked increasing demand. On Tuesday there was a decline in price; but still shares were not forced on the market, as many holders are sanguine in the belief that the share market is on the eve of considerable improvement in demand and price. On Wednesday prices were not steady; and, in the heavier kinds, business was done at a decreased price. There appeared a little more firmness on Thursday; and left off yesterday with much the same aspect.

MEETINGS.—PARKGATE, CHESTER, AND BIRKENHEAD: for considering the propriety of making application to the Railway Commissioners for an extension of time for construction, from three to five years; unanimously agreed to.—Special: for the same purpose; agreed to.—LONDON AND GREENWICH: half-yearly; merely formal. Directors promised to consider the best means for converting the mortgage debt of 230,000*l*. into share capital.—DIRECT LONDON AND EXETER: under Lord Dalhousie's Act sufficient votes were handed in to enable the company to be dissolved; and the retiring directors were re elected.

HULL, THURSDAY.—More disposition has been shown to purchase during the week, although the market has received a temporary check, owing to the reaction in Consols: we look for higher rates as the year advances. The most striking event of the week, as regards prices, is the fall in Darwent, which have been down to-day as low as 94*l*. dis.—leaving off sellers thereat. North British—it being expected that the forthcoming dividend will be at the rate of 6 per cent., at least—are firm, and in request. Ipswich and Bury attract attention at the low prices. Thirsks are better, and East Anglians show signs of recovery from their late depression.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Adair's Main 16 6—Bate's West Hartley 18 6—Buddle's West Hartley 19 6—Carr's Hartley 19 6—Chester Main 18 6—Dipton Tanfield 14 6—Hedley's Hartley 17 3—Hasting's Hartley 19 6—Holywell Main 19—North Percy Hartley 18 6—New Pelton Main 15 3—New Tanfield 15 6—Ord's Redheugh 16 9—Original Tanfield 14 6—Pontop Windsor 15 6—Tanfield Moor 17 6—Wylam 17—West Wylam 17 6—Wall's End Brown's Gas 16—Killingworth 21 3—Belmont 22—Braddyll's Hetton 22 9—Bell 21 9—Haswell 23 3—Hetton 23 3—Keepier 22 6—Lambton 22 9—Lumley 21—Morrison 20 6—Russell's Hetton 22 9—Shotton 22 3—Stewart's 23 3—Caradoc 22 9—Hudson's Hartlepool 21 6—High Thornley 18 6—Tees 22 9—Tees Hetton 17 6—West Cornforth 21—Derwentwater Hartley 19—Grangemouth 18.—Ships at market, 212.

WEDNESDAY.—Adair's Main 16 6—Bate's West Hartley 19 6—Buddle's West Hartley 20 3—Chester Main 17 9 to 18—Carr's Hartley 20 6—Dipton Tanfield 14 6—Hedley's Hartley 17—Hasting's Hartley 20 3—Holywell Main 18 9—North Percy Hartley 19 6—New Tanfield 15 6—Ord's Redheugh 16 9—Pontop Windsor 15 6—South Pearetb 16 6—Wylam 17—West Wylam 17—Wall's End Acorn Close 20 6—Bell and Brown 21 6—Bewicke and Co. 21 6—Brown's Gas 16—Gosforth 21 6—Hotspur 20 3—Hilda 20 6—Killingworth 21—Northumberland 20 3—Riddell's 21 3—Washington 19—Eden Main 22 3—Harraton Main 18—Belmont 22 3—Braddyll's Hetton 22 9—Bell 21 9—East Hetton 20—Haswell 23 3—Hetton 23 3—Lambton 22 9—Lumley 21—Russell's Hetton 22 9 Richmund 21 3—Shotton 22 3—Stewart's 23 3—Cassop 22 6—Caradoc 22 9—High Thornley 18 9—Heugh Hall 21—Kelloe 22 6—Trimdon 21 6—Adelaide Tees 22 6—Cowndon Tees 21—Seymour Tees 21 6—South Durham 21 6—Tees 22 9—West Cornforth 21—Whitworth 17 6—Derwentwater Hartley 19 9.—Ships at market, 200.

FRIDAY.—Adair's Main 16 6—Bate's West Hartley 19 6—Buddle's West Hartley 20 6—New Tanfield 15 6—Ord's Redheugh 17—Original Tanfield 14 6—Wylam 17—Wall's End Bewicke and Co. 21 6—Elm Park 20—Gosforth 21 6—Killingworth 21—Belmont 22 3—Bell 21 9—East Hetton 20 3—Haswell 23 6—Hetton 23 3—Lambton 23—Lumley 21—Russell's Hetton 23—Shotton 22 9—Stewart's 23 3—Hudson's Hartlepool 21 6—High Thornley 19—Heugh Hall 21 6—Trimdon 21 6—Barrett 21 3—Seymour Tees 21 6—Ships at market. 160; sold, 43; unsold, 117.

LATEST CURRENT PRICES OF METALS.

LONDON, JANUARY 28, 1848.

	£	s.	£	s.	d.
IRON—Bar a..Wales..ton	0	0—	7	0	0
,, ..London ..	0	0—	8	5	0
Nail rods ,,	0	0—	9	0	0
Hoop(Staf.),,	0	0—	9	15	0
Sheet ,, ,,	0	0—	10	15	0
Bars ,,	0	0—	9	5	0
Welsh cold-blast foundry pig }	4	0—	4	10	0
Scotch pig b, Clyde	2	8—	2	10	0
Rails, average	0	0—	7	0	0
Chairs	0	0 –	4	17	6
Russian, CCND c..	17	10—	18	0	0
,, PSI	0	0—	—		
,, Gourieff	0	0—	—		
,, Archangel	0	0—	13	10	0
Swedish d, on the spot	11	0—	11	5	0
,, Steel, fagt.	0	0—	16	5	0
,, ,, kegse	0	0—	14	0	0
COPPER—Tile f	0	0—	97	0	0
Tough cake	0	0—	98	0	0
Best selected	0	0	101	0	0
Ordin. sheets, lb.	0	0—	0	0	11

	£	s.	£	s.	d.
COPPER—Ord. bottoms	0	0—	0	0	12
YELLOW METAL SHEATHING	0	0—	0	0	9½
TIN—Com. blocks g..cwt.	0	0—	4	2	0
,, bars	0	0—	4	3	0
Refined	0	0—	4	6	0
Straits h	0	0—	3	17	0
Banca	0	0—	4	4	0
TIN-PLATES—Ch., IC i, box	0	0—	1	8	0
,, IX	0	0—	1	14	0
Coke, IC	1	3—	1	4	0
,, IX	1	9—	1	10	0
LEAD—Sheet k ...ton	0	0—	19	0	0
Pig, refined	18	15—	19	0	0
,, common	0	0—	17	15	0
,, Spanish, in bd.	0	0—	17	0	0
Red	0	0—	19	10	6
Dry White	0	0—	24	0	0
Shot (Patent)	0	0—	20	10	0
SPELTER—(Cake) l on spot	19	15—	20	0	0
for arrival	0	0—	19	5	0
ZINC—(Sheet) m export.*	0	0—	27	0	0
QUICKSILVER n ...lb.	0	0—	0	4	6

a Discount 2½ per cent. b Net cash. c Discount 2½ per cent. d Ditto e In kegs ¼ and ½-inch. f Discount 3 per cent. g Ditto 2½ per cent. h Net cash in bond. i Discount 3 per cent. k Ditto 2½ per cent. l Net cash. m Discount 1½ per cent. n Discount 1½ per cent. * For home use it is 32l. per ton.
* Those marked with an asterisk (*) are dividend per share.

This week has been unusually dull—no transactions worth noticing having occurred in any metal; prices, however, continue to be maintained at last week's quotations. The late buoyancy in Scotch pig-iron has quite subsided; and, by last reports from Glasgow, a re-action was anticipated. A parcel of Straits tin was offered to-day by public auction, but there being no purchasers, the whole was bought in at 78s. There is more inquiry for spelter—probably, owing to the small stock and the frost, but no sales have been made.

GLASGOW PIG-IRON TRADE, JAN. 27.—There is not so much disposition evinced to purchase this week as last; the price, however, is well maintained, and holders continue firm. We quote mixed Nos. at 48s. 6d. to 49s.—cash, free on board.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of Dec. is 26—the quantity of coals consumed being 2258 tons, lifting, in the aggregate, 21,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 53,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch. on pist.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush.coal	Average quantity of water per min.
Wh. Prosper..	Robert's 70-in.	9·75	54,483	10·8	6·1	2212	59·9	528
Great Work..	Leeds's 60-inch	9·0	47,020	12·9	8·1	2108	62·1	192
United Mines	Taylor's 85-in.	11·0	97,108	15·5	4·9	2702	86·6	—
Ditto	Cardoza's 90-in.	9·0	99,468	13·7	5·8	3754	58·9	—
Ditto	Eldon's 30-inch	9·0	13,631	16·0	8·4	603	69·9	—
Ditto	Loam's 85-in ..	10·0	89,320	11.8	5·5	3392	53·9	—
Perran St.Geo.	60&100-in.com.	9·0	89,833	28·2	7·4	4150	65·2	1302
East Wh. Rose	Penrose's 70 in.	10·0	54,114	12·6	3·7	1400	65·7	} 822
Ditto	Michell's 70 in.	10·0	62,081	14·4	4·2	1629	73·0	
Wh.MaryCon.	,, 63-in.	8·66	29,261	9·3	6·9	1559	57·0	291

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	Traffic Returns. 1848	1847
Arbroath and Forfar	16	£179,939	26	4p.c.	£174	£190
Birkenhead, Lancashire, & Chesh.	15	706,793	38½	—	537	481
Dublin and Drogheda	35	733,655	52	3½	648	618
Dublin and Kingstown	7¾	473,282	—	7	519	630
Dundee, Perth, & Aberdeen Junc.	47½	285,745	30	6	738	278
East Anglian (Lynn to Ely)	26½	908,892	12½	—	433	—
East Lancashire	24	1,207,490	21½	—	934	512
Eastern Counties	202¾	7,698,370	16	5	10050	9038
Eastern Union	50	979,926	45	..	1115	901
Edinburgh and Glasgow	53	2,375,745	44½	6	3197	3364
Edinburgh and Northern	29	953,207	21	—	970	—
Glasgow, Paisley, and Ayr	64½	1,890,547	72	7	1827	2126
Glasgow, Paisley, & Greenock	22	838,964	17½	3	877	891
Gt. Southern & Western, Ireland	110½	1,876,326	24½	—	1832	926
Great Western	269¾	10,630,763	102	8	15793	15172
Kendal and Windermere	10½	147,001	23	—	99	—
Lancaster and Carlisle	70	1,291,913	54¾	—	1047	—
Lancashire and Yorkshire	92½	6,807,314	76	7	7980	8278
London and North Western	428	20,010,467	152½	9	32972	34101
London and Blackwall	4	1,146,289	5¾	¼	672	634
London, Brighton, & South Coast	152½	5,659,180	43½	4	6170	4996
London and South-Western	186	5,836,132	55¾	9	6502	5408
Londonderry and Enniskillen	14½	160,013	16	—	110	—
Manchester, Sheffield, & Lincolnsh.	46	2,078,135	80	5	1981	1880
Maryport and Carlisle	28	424,417	—	3	480	420
Midland Company	402¾	8,658,604	114½	7	17729	15832
Midland Great Western (Irish)	36¾	583,776	—	—	813	—
Newcastle and Carlisle	65	1,184,080	117	6	1718	2032
Norfolk	81¼	1,375,633	90	6	1725	1316
North British	78	2,514,150	27	5	1957	1196
Shrewsbury and Chester	17	591,158	21½	—	460	245
South Devon	29	1,339,860	23	—	652	418
South-Eastern	165½	6,398,218	30¾	6	6512	5985
Taff Vale	38	785,607	—	5¼	1837	1322
Ulster	25	646,211	52	6	596	709
Whitehaven Junction	12	130,000	—	4½	145	—
York, Newcastle, & Berwick	236½	3,685,102	34¾	9	10239	7833
York and North Midland	230½	3,196,869	77	10	6285	4774
FOREIGN RAILWAYS.						
Amiens and Boulogne	68¼	573,338	—	4	979	—
Antwerp to Ghent (monthly)	31	—	—	—	1100	—
Belgian ditto	—	—	—	—	46247	43741
Dutch Rhenish	57½	—	2½	—	—	—
Northern of France	211	2,000,000	11½	4	11854	8298
Orleans to Bourges (Central)	107½	—	—	—	2287	—
Orleans to Tours	72	600,000	—	5	2587	2394
Paris and Orleans	82	2,011,720	47½	12½	7227	6519
Paris and Rouen	85	2,082,916	35¾	9¼	6123	5502
Rouen and Havre	59½	—	17½	4	2344	—
Strasburgh and Basle (monthly)	88	—	8	1½	6932	6621
West Flanders (ditto)	—	—	1¾	—	964	—

Total earnings for last week, £149,281, being an increase of £14,109 over last year.

GAS-LIGHT AND COKE COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
5,000	British (London)	£18	£1*	£17½
5,000	Ditto (country)	19	1¾*	23½
1,000	City of London	100	10	290
1,000	Ditto New	100	10	290
4,000	Equitable	50	5	38
10,000	European	20	1½	18
12,000	Gas-Light and Coke Chartered Co.	50	6	55½ 56½
6,000	Ditto New	10	6*	11 11½
9,000	General United Gas-Light Company	50	2	17½ 18½
10,000	Imperial	50	6	80½
46,400l.	Ditto Debentures	100	4	100
8,000	Imperial Continental	39½	4½*	54 56
7,000	Ditto New	28	4½*	61
84,500l.	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	49 50
3,000	Ditto	50	5	48
9,000	Phœnix, or South London	43	5	33¾
1,000	Ratcliff	80	6	80
4,000	South Metropolitan	25		30 32

SUCCESSFUL APPLICATION OF THE SEYSSEL ASPHALTE TO FORTIFICATION.—On Monday last, several interesting experiments took place at Plymouth, for the purpose of testing the strength of some of the seaward embrasures of the citadel. The first experiment was made at the second embrasure at the west end of the Cumberland six-gun battery. A 32-pounder was loaded, and fired at different angles and depressions, six times with charges of 10 lbs. of powder. On inspection, it was found that the embrasure of rubble masonry was much shattered, and heavy fragments of stone thrown off; other experiments were made on the old masonry batteries with somewhat similar results. An experiment was then made on the new asphalte battery, lately constructed by the Seyssel Asphalte Company; here a similar number of shots took place, after which no effect was to be seen on the new work; but, at 2 or 3 ft. from it, where it joined the old work, the masonry was a little shaken. Twelve tons of asphalte bricks were used in this construction, and cemented by the material being poured into the joints boiling hot. It took 12 men four weeks in its erection, and has established an important fact in the building of fortifications and the materials to be employed.

SOUTH WALES IRON-WORKS.—In the Vice-Chancellor's Court, yesterday, a petition was presented by several creditors of the bankrupts, Messrs. Grylls, Stubbs, and Cousens, engineers and ironfounders, at Llanelly, in Carmarthenshire, praying the removal of the fiat from the London to the Bristol district. The fiat was issued at the instance of one son of the bankrupt, Mr. Cousens, who resides at Stepney, and was opened at the instance of another son, a creditor, and the same was directed to the London district. The debts of the firm were 8000l., all but 800l. of which appeared to be owing within the Bristol district, and none were owing in the London district. The two active partners lived at Llanelly, where the works and buildings were of the value of 2000l.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	—
512	Albert Consols	1	2¼
1024	Alfred Consols	4½	30
256	Alternum Consols	2	15
235	Andrew and Nangiles	28½	11½
10000	Ayrshire Iron Company	5	1½
1624	Balleswidden	9	18
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	10
4000	Bedford	2½	3½-¾
128	Besore Lead Mine	14	10
315	Birch Tor Tin Mine	24½	—
8000	Blaenavon	50	23
100	Botallack	175	80
120	Brewer	5	7
10000	British Iron, New, regis.	10	11-11½
—	Ditto ditto, scrip	10	12
128	Budnick Consols	52½	40
128	Burthy	20	21
100	Bwlch Cwmerfin	20	—
128	Callestock	17	30
1000	Callington	19	32
20000	Cameron's Steam Coal	4	3¼-¾
256	Caradon Copper Mine	9¼	1
256	Caradon Mines	22½	17
256	Caradon United	24	5
256	Caradon Wh. Hooper	21	20
1000	Carn Brea	15	105
2048	Cascade	1	2
112	Charlestown	220	30
166	Cleveland	9	5
512	Coatlithe Hill	¼	2
1900	Combmartin	7½	3
500	Comblawn	5½	6
128	Comfort	45	90
256	Condurrow	20	33
2560	Cook's Kitchen	14	2
2048	Coombe Tin Mine	4½	2
1000	Coombe Valley Quarry	2	3
1000	Copper Bottom	1	1
1024	Cosheen	4½	20
240	Craddock Moor	15½	15
128	Creeg Braws	120	100
500	Cubert Mine	12½	15
2048	Dartmoor Consols	3	2
300	D.Prior & Buckfastleigh	14	26
7500	Demelza Mines	2	2
7100	Derwent	8½	5
1024	Devon&CourtenayCon.	7½	4-5
1024	Devon Great Consols	1	210-15
1000	Dhurode	2	5
186	Dolcoath	30	50
2560	Drake Walls	4	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
256	East Alvenney	10	25
112	East Caradon	42	42
2048	East Crowndale	5½	5
512	East Combe Silver-Lead	6½	6½
128	East Pool	5	20
100	East Relistian	22	40
—	East Wheal Albert	1	3
94	East Wheal Crofty	125	280
256	East Wheal Fortune	2	3
128	East Wheal Rose	50	1200
2048	East Wh. Rough Tor	¼	2
—	East of Scotland Iron Co.	2½	½
123	East Wheal Seton	14	15
256	Elborough	1½	2
256	Exmoor Wh. Eliza	3½	6
512	Fowey Consols	40	45
6400	Gadair	2	2
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	2	1½
2048	Georgia Tin Mines	1¾	1¾
256	Gonamena	31½	45
128	Goonvrea	4	1¼
244½	Grambler & St. Aubyn	—	10
100	Great Consols	1000	400
256	Great Callestick Moors	22	25
2560	Great Michell Consols	1½	3½
256	Great Resugga Moor	7	12
512	Gt. Wh. Rough Tor Con.	15½	25
100	Grogwinion	5	—
256	Gwinear Consols	7	20
1000	Harrowbarrow Old Mine	8½	2
6000	Heigiston Down Con.	½	2½
256	Herodscombe	4½	4½
256	Herodsfoot	16	18
10000	Hibernian	12½	1½
239	Hobb's Hill	6	3
1000	Holmbush	19	11
827	Kirkcudbrightshire	5½	6
2048	Lamheroe Wh. Maria	11	4
128	Lelant Consols	90	60
160	Levant	—	90
1000	Lewis	15	6½
1000	Llwyn Malees	5	—
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	15	15
6000	Marke Valley	10	3
5000	Mendip Hills	2½	1½
5000	Merionethshire Slate & Slate Slab Co. }	1½	2
20000	Mining Co. of Ireland	7	7
256	New East Crowndale	3½	3¾
128	North Fowey Consols	30	30
100	North Pool	45	370
70	North Roskear	10½	310
256	North Wh. Abraham	1	1
262	North Wh. Leisure	1½	2
128	North Wh. Providence	2½	3
15000	Northern Coal Co.	23	2
128	Par Consols	—	1000
4000	Pennant	1¼	2½
100	Penrhiw	30	65
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	15
512	Plymouth Wh. Yeoland	4½	21
256	Polsaith Consols	4½	7
112	Providence Mines	35	45
10000	Rhymney Iron	50	20
10000	Ditto New	7	6¾
256	Rose Consols	10	2
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
—	Shotts Iron Company	50	55
2500	Silver Valley	5½	2
1100	South Dolcoath	3	2½
128	South Caradon	10	450

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Sth. Friendsh. Wh.Ann	16	25
200	South Harvannah	10	25
256	South Tolgus	7½	50
256	South Trelawney	20	8½
128	South Yeoland	16½	20
128	South Wheal Basset	110	95
256	South Wh. Betsey	2½	5
124	South Wh. Francis	160	200
256	South Wh. Hope	—	5
1000	South Wh. Maria	2¾	2
256	South Wheal Rose	11¼	1
256	South Wh. Sophia	4	4½
10000	Southern&Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	10
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
1000	Stray Park	43	20
9600	Tamar Consols	3	4
1024	Tavy Consols	5½	11
6000	Tincroft	¾	8
1000	Tin Vale	2	10
128	Tokenbury	143½	10
256	Trehane	2	24-½
5000	Treleigh Consols	6	3½
2000	Trenance	2	50
96	Tresavean	10	250
120	Trethellan	5	16
120	Treviskey and Barrier	130	135
288	Trevean	1½	25
128	Trewellard	12	26½
100	United Mines	300	350
256	Wellington Mines	15	30
128	West Basset	45	30
256	West Caradon	20	120
128	West Cargoll	2	12
512	West Fowey Consols	40	15
256	West Providence	9	25
200	West Seton	40	150
—	West of Scotland Iron Co.	210	210
120	West Trethellan	5	35
256	West United Hills	6½	1
256	West Wh. Friendship	9	12
3845	West Wheal Jewel	11	1½
2560	West Wh. Maria	2½	1½
256	West Wheal Shepherd	5	2¼
256	West Wheal Tolgus	21½	5
256	West Wheal Treasury	19	10
5200	Wicklow Copper	5	11½
184	Wheal Adams	51	10
1000	Wheal Agar	—	10
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	2	5
237	Wheal Anderton	18	25
128	Wheal Ann	—	50½
512	Wheal Ann, Bridford	1	2
512	Wheal Anna Maria	—	5
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
2560	Wheal Barbara	1½	4-5
256	Wheal Benny	10½	6
256	Wheal Blencowe	21	8
256	Wheal Bucketts	20	5
256	Wheal Calstock	3	8½
136	Wheal Clifford	190	190
1024	Wheal Coad	¼	5
128	Wheal Courtenay	—	20
6000	Wheal Curtis	2½	3-3¼
256	Wheal Dyke	12	13
256	Wheal Fortescue	6½	5
512	Wheal Fortune Consols	3½	6½
2048	Wheal Frederick	2	2
388	Wheal Franco	27	20
128	Wheal Harriet	45	50
256	Wheal Jane	21	15
256	Wheal Louisa	8½	8
112	Wheal Margaret	79	250
512	Wheal Mary Ann	5	17
256	Wheal Mary Consols	38	25
210	Wheal Prospect	4	7
120	Wheal Reeth	27	80
128	Wheal Rose	60	45
2048	Wheal Samson	½	20
99	Wheal Seton	214	1100
256	Wheal Sisters	29½	20
256	Wheal Sophia	5½	10
128	Wheal Spearne	10	75
128	Wheal St. Ann	9	15
260	Wheal Trelawney	7½	90
256	Wh.Tremaine(St.Ervan)	4½	20
256	Wheal Tremayne	35	25
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	265
121	Wheal Venland	29½	30
256	Wheal Vlow (Perranz.)	½	½
184	Wheal Vyvyan	—	60
256	Wheal Williams	6	12

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	3½-¾
15000	Asturian Mining Co.	11	3¾
20000	Australian	2½	3½-¾
10000	Anglo-Mexican Co.	100	2
12374	Ditto Subscription	25	2½
6000	Barossa Range	½	2½
3000	Bolanos	150	3½
2000	Ditto Scrip	15	3¾
12000	Brazilian Imperial	23	7
10000	Cobre Copper Co.	40	18
8500	Colombian Co. regis.	55 }	
5000	Ditto Scrip	5¼ }	1
5000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	13¾
5000	Kinzigthal Mining Ass.	2	4¼
20051	Mexican Company	59	—
2000	Mexican & SouthAmer.	7	1½
5000	Mocaubas & Cocaes	30	6
29320	{ Rl.del Monte, regis. / Ditto unregistered }	28¾	1½
	Ditto Red Debentures	—	10
	Ditto Black ditto	—	8
	Ditto Loan Notes	150	60
7000	Royal Santiago	10	6
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	6
43174	United Mexican	Av. 28½	1½

MISCELLANEOUS COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ¾	28
10,000	Australian Agricultural	30	1	22
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16¾
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
8,915	Canada	32½	6	30½
—	City Bonds (Navigation)	—	3½	89
1,800	Corn Exchange	37½	1½	26½
5,000	Droitwich Patent Salt	25	¾*	11
2,700	Equitable Reversionary	95	4½	90
—	General Reversionary Interest	100	5	105
0,000	General Steam Navigation	14	1¾*	24
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	¾	45
1,500	London Commercial Sale Rooms	—	1½	31 32
8,000	London Reversionary	22	—	23 24
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3½ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	59½
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4½*	97
—	Royal Mail Steam	—	5½	47¾
8,000	South Australian	25	6	—

NEW PATENTS.

H. Heywood, Thorssley Ness Mills, Blackburn, Lancashire, for certain improvements in looms for weaving.

W. Hudson, Burnley, Lancashire, machine-maker, and John Dodgson, of Burnley, same county, overlooker, for certain improvements in looms for weaving.

H. Hornblower, late of Dalgleish-place, Commercial-road, Middlesex, but now of Devon's-lane, Bromley, for certain improvements in machinery for exerting motive-power, and for raising and forcing fluids.

T. Topham, Ripley, Derbyshire, for improvements in the manufacture of time-tables.

G. F. Wilson, Belmont, Vauxhall, for improvements in treating and manufacturing certain fatty or oily matters, and in the manufacture of candles and night-lights.

H. Highton, Rugby, and E. Highton, Regent's-park, Middlesex, for improvements in electric telegraphs.

J. Barr Mitchell, M.D., and T. Bett, Woolryche, for improvements in the manufacture of soda, and in treating products obtained in such manufacture.—*Mechanics' Magazine.*

CHEER UP!

BY MARTIN F. TUPPER, D.C.L., F.R.S.

Never go gloomily, man with a mind—
Hope is a better companion than fear:
Providence—ever benignant and kind—
Gives with a smile what you take with a tear.
All will be right—
Look to the light;
Morning was ever the daughter of night,
All that was black will be all that is bright—
Cheerily! cheerily! then, cheer up!
Many a foe is a friend in disguise,
Many a trouble a blessing most true,
Helping the heart to be happy and wise
With love ever precious and joys ever new!
Stand in the van—
Strive like a man!
This is the bravest and cleverest plan,
Trusting in God while you do what you can—
Cherrily! cherrily! then, cheer up!

LEAD ORES

Sold on the Mine.

Mines.	*Tons.*	*Amount.*	*Purchasers.*
East Wheal Rose	74	£10 17 0	R. Michell & Son.
ditto	69	11 1 6	ditto
ditto	44	11 10 6	J. T. Treffry.
Total tons	187		
Sold in London.			
Cubert	15	£10 0 0	Walker, Parker, & Co.
Sold at Liskeard.			
Wheal Mary Ann	43	£16 15 0	Dr. Somers.
ditto	37	1 15 0	J. T. Treffry.
Sold at Holywell.			
Cairnsmore	30	£8 18 0	—
ditto	10	7 0 0	—
Kilbricken	7	22 11 0	—

COPPER ORES.

Sampled Jan. 12, and Sold at Pearce's Hotel, Truro, Jan. 27, 1848.

Mines.	*Tons.*	*Price.*
Consolidated	97	£6 10 6
ditto	83	5 13 6
ditto	81	4 5 0
ditto	80	3 18 6
ditto	75	3 13 0
ditto	72	6 5 0
ditto	65	5 9 6
ditto	59	1 17 0
ditto	56	3 14 6
ditto	49	6 19 0
ditto	25	3 9 0
ditto	20	3 6 0
United Mines	132	2 10 6
ditto	103	5 14 6
ditto	102	5 3 6
ditto	101	2 17 0
ditto	82	3 4 6
ditto	66	3 10 6
Tresavean	101	3 18 6
ditto	96	2 10 6
ditto	68	3 0 6
ditto	61	3 15 6
ditto	52	2 10 0
South Caradon	106	8 8 6
ditto	84	6 2 0
ditto	80	7 18 6
ditto	70	5 13 0
ditto	25	3 19 0
Treviskey	100	6 2 6
ditto	80	6 12 6
ditto	66	3 12 6
ditto	64	7 3 6
Perran St. George	53	3 17 6
ditto	52	2 2 0
ditto	49	2 14 6
ditto	47	1 18 0

Mines.	*Tons.*	*Price.*
Perran St. George	38	£1 18 0
ditto	25	7 9 6
Bolenna	26	7 18 6
ditto	19	2 15 6
Par Consols	80	8 15 6
ditto	79	8 14 6
ditto	76	6 15 6
ditto	72	4 17 0
Wh. Comfort	64	1 18 6
ditto	56	2 0 6
ditto	52	2 7 0
ditto	40	4 0 6
ditto	37	4 14 0
St. Aubyn	75	2 8 6
ditto	43	7 6 6
Grambler	57	4 7 0
Trethellan	77	2 8 6
ditto	34	4 9 0
ditto	32	2 3 6
ditto	23	1 10 0
Wh. Sisters	95	6 18 6
ditto	31	3 9 6
Treleigh Consols	50	8 16 6
ditto	36	2 0 6
ditto	27	5 7 6
Wh. Ellen	90	6 12 0
ditto	17	3 12 6
Andrew	55	4 3 6
Nangiles	23	5 10 6
Barrier	71	4 7 0
Wh. Clifford	50	3 12 0
ditto	6	2 18 0
Charlestown United	21	8 9 0
ditto	9	10 10 6
Budnick	22	4 12 6

TOTAL PRODUCE.

Consolidated	762	£3652 7 6
United Mines	586	2235 15 6
Tresavean	378	1204 16 0
South Caradon	365	2533 14 0
Treviskey	310	1840 19 0
Perran St George } Bolenna }	309	1055 5 0
Par Consols	307	2255 7 6
Wh. Comfort	249	693 14 0
Grambler&St.Aub.	175	744 16 0
Trethellan	166	£442 2 6
Wh. Sisters	126	765 12 0
Treleigh Consols	113	659 5 6
Wh. Ellen	107	655 12 6
Andrew&Nangiles	78	356 14 0
Barrier	71	308 17 0
Wh. Clifford	56	197 8 0
CharlestownUnited	30	272 3 6
Budnick	22	101 15 0

Average Standard..........£101 5 0 | Average Produce 7⅝
Average Price per ton £4 14 6
Quantity of Ore .... 4210 tons. | Quantity of Fine Copper, 311 tons 12 cwts.
Amount of Money £19,976 4 6
LAST SALE.—Average Standard......£ 87 14 0.—Average Produce 10

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	80	£318 0 0
Vivian and Sons	1089	4674 17 10
Freeman and Co.	691	3222 2 9
P. Grenfell and Sons	714	2902 18 3
Crown Copper Company	69	476 14 10
Sims, Willyams, and Co.	573	2622 5 0
Williams, Foster, and Co.	992	5759 5 10
Total tons	4210	£19,976 4 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels.—North Pool 834—Camborne Vean 561—Wheal Seton 552—East Wheal Crofty 502—Condurrow 288—Tincroft 287—Dolcoath 261—Fowey Consols 247—South Wh. Francis 213—South Wheal Basset 210—East Pool 161—Wheal Bucketts 100—Lanivet Consols 22—South Towan 20—Wheal Tryphena 19—Tretoil 17—Total, 4294 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea Mines 849—Par Consols 316—Wheal Prosper 212—Wheal Tremayne 115—Wheal Rodney 110—Gwinear Consols 110—South Wheal Fortune 86—Wheal Jane 77—Wheal Agar 76—North Wheal Basset 52—Wheal Busy 34—East Relistian 31—Wellington Mines 29—Michell's Ore 21—Wheal Vyvyan 15—West Wheal Providence 15.—Total quantity of ores to be sold, 2148 tons.

COPPER ORES

Sampled Jan. 5, and Sold at Swansea, Jan. 27, 1848.

Mines.	Tons.	Prod.	Stand.	Price.
Cobre	122	14½	87½	£10 5 0
ditto	117	14½	88	10 6 0
ditto	110	14½	88	10 6 0
ditto	87	14½	87½	10 7 0
ditto	86	14½	88½	10 9 6
ditto	74	21½	83½	15 18 0
ditto	14	16½	85½	12 0 6
ditto	28	21½	83½	15 18 0
ditto	5	23½	82	17 0 6
ditto	25	19½	85	14 0 6
Chili	57	55½	79½	41 15 0
ditto	55	54½	79½	41 10 6
ditto	53	54½	79½	41 1 6
ditto	51	54½	78½	40 7 0
ditto	50	55½	78	41 2 0

Mines.	Tons.	Prod.	Stand.	Price.
Chili	48	55	77½	£40 5 0
ditto	46	56½	78½	42 2 6
ditto	35	55½	78	40 16 6
ditto	84	28½	82	20 16 6
Holyford	66	24½	86½	19 1 6
ditto	56	24½	86½	18 17 6
Burra Burra	60	40	83¾	31 4 6
ditto	57	37	84	28 16 0
Lackamore	54	7½	101	5 14 0
ditto	7	29½	80	21 10 0
Chili	52	27½	90	22 10 6
Colombia	12	23½	84½	17 13 6
Princess Royal	11	30½	86	24 2 0
Australian	9	13½	92	9 18 6

TOTAL PRODUCE.

Cobre	668	£7615 16 0
Chili	479	18001 7 6
Holyford	122	2315 19 0
Burra Burra	117	3515 2 0
Lackamore	61	458 6 0
Chili	52	£1171 6 0
Colombia	12	212 2 0
Princess Royal	11	265 2 0
Australian	9	89 6 6

Total tons, 1531.—Amount of money, £33,644 7s. 0d.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Freeman and Co.	60	£1873 10 0
P. Grenfell and Sons	266	4344 17 0
Sims, Willyams, and Co.	91	2485 17 6
Vivian and Sons	585	10533 18 0
Williams, Foster, and Co.	392	10580 3 0
Schneider and Co.	28	451 18 6
Smith	109	3374 3 0
Total tons	1531	£33,644 7 0

Copper ores for sale, February 10.—Cobre 106, ditto 101, ditto 96, ditto 87, ditto 82, ditto 81, ditto 8, ditto 105, ditto 99, ditto 81, ditto 80, ditto 62, ditto 26, ditto 127, ditto 86, ditto 66, ditto 63, ditto 24.—Cuba 116, ditto 103, ditto 96, ditto 86, ditto 49, ditto 87, ditto 84, ditto 81, ditto 64, ditto 63.—Knockmahon 112, ditto 108, ditto 92, ditto 91, ditto 81, ditto 79, ditto 70, ditto 59.—Berehaven 115, ditto 95, ditto 90, ditto 84, ditto (Kellogue) 73, ditto 65.—Burra Burra 66, ditto 64, ditto 62, ditto 49, ditto 39, ditto 33.—Ballymurtagh 82.—Hafodyllan 31, ditto 6, ditto 1.—Aberdovey 22.—Davies's Ore 8, Llanidloes 6—Total quantity of ores to be sold, 3892 tons.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—
Silver coin to Havre .... 5025 ounces.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 27, was 18,417; amount of money, £76 14s. 9d.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY ....Australian Trust Company—offices, at Twelve.
MONDAY .....Cierkenwaier Mines Company—Oliver's Hotel, Bodmin, at Six.
Great Western and Wycombe Railway—offices, at Eleven.
Cameron's Coalbrook Steam Coal and Swansea and Loughor Railway Co. —offices, at Twelve for One.
Southampton and Dorchester Railway—Vauxhall Terminus, at Three.
Great Western and Uxbridge Railway—offices, at Eleven.
Swansea Dock Company —Castle Hotel, Swansea, at Ten.
West of London & Westminster Cemetery Co.—Bath Hotel, Piccadilly, One.
Continental Cattle Steam-Ship Company—offices, at Two.
TUESDAY.....London Cemetery Company—Radley's Hotel, New Bridge-street, Eleven.
WEDNESDAY ..Law Life Assurance Company—offices, at half-past Eleven.
THURSDAY....London and County Joint-Stock Bank—London Tavern, at One.
London and County Railway and General Investment Co.—offices, Eleven.
FRIDAY .....Kilkenny & Great Southern and Western Railway—offices, Twelve for One.
Church of England Fire and Life Assurance Co.—offices, at Twelve.
SATURDAY ....Banwen Iron Company—offices, at Twelve.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

UNION BANK OF AUSTRALIA.

The half-yearly meeting of the proprietors was held at the bank, Old Broad-street, on Monday, the 24th inst.,

J. J. CUMMINS, Esq., in the chair.

After the usual preliminaries, the SECRETARY (S. Jackson, Esq.), read the following—

REPORT.

The directors have much pleasure in being able to present a satisfactory report of the state and progress of the bank's affairs at all its branches. Dispatches have recently been received from the inspector, containing his report upon the position in which he found the branches in New South Wales and Van Diemen's Land at his late visit of inspection, and the exact state of the various securities held by the bank at each branch—the general result of which is at once creditable to the managers, and very satisfactory to this board.

The business of the branches at Launceston and Hobart Town has considerably diminished, but not to a greater extent than the general decrease of trade in these places might be expected to produce. The operations of these branches have been, for some time, prudently limited. In New Zealand, the branch at Wellington, although restricted within very cautious limits, is doing a safe and profitable business. At Nelson, the transactions are confined to a small agency, but at both branches there are strong indications of gradual improvement. The abundance of money, and comparatively low rate of interest prevailing in New South Wales, for the last two or three years, have naturally given rise to internal increased consumption, and attracted a large and active import trade. This, concurring with other causes, has tended to produce an adverse state of exchange, and led to the transmission of a considerable amount in specie to this country. The directors having, for some time, anticipated this result, made such preparation as enabled the branches, under the judicious instruction of the inspector, to meet the greatly increased demand for bills on London, without the smallest derangement of their financial position, and with much benefit to the general interests of the bank.

The directors have the satisfaction of stating, that no loss has been sustained by the bank during the recent period of commercial distress; while, on the other hand, the estimate for bad and doubtful debts has been, to a small extent, reduced by the last returns —leaving the sum of 10,915*l.* 5*s.* 6*d.* as a possible charge on the amount of undivided profits. They now proceed to submit their usual statement of accounts—the result of which enables them to declare a dividend, for the half-year, at the rate of 6 per cent. per annum upon the paid-up capital of the bank—to be payable in London on the 7th Feb., and in the colonies as soon as the inspector shall fix after the receipt of advice. This dividend will be paid free of the income tax; and, in order to equalise the division, 7*d.* in the pound will be added upon such dividends as are paid in the colonies.

Statement of Accounts laid before the Meeting.

LIABILITIES.

Bills payable		£74,123	9 1
Sundry balances		4,040	14 10
Reserve fund (10 per cent.)	£53,340 15 4		
Profit and loss	43,067 6 4	96,408	1 8
		£174,572	5 7
Paid-up capital		820,000	0 0
Total		£994,572	5 7

ASSETS.

Branch accounts (balance)	£461,847 15 11
Bills receivable	20,615 0 6
Investments, Government stock, and loans on security	498,171 13 10
Insurance, open policies, &c., 2964*l.*; cash, 10,973*l.* 6*s.* 10*d.*	13,937 15 4
Total	£994,572 5 7

STATEMENT OF PROFITS.

Balance of undivided profit at June, 1847		£ 37,677	10 11
To which add profits for the half-year at the branches, ending 30th June, and at the London office the 31st Dec., 1847	£33,321 19 4		
Deduct one-tenth for reserve fund	3,332 3 11	29,989	15 5
		£67,667	6 4
Deduct dividend paid at Midsummer, 1847		24,600	0 0
Balance of undivided profit at this date		£ 43,067	6 4

RESERVE FUND.

At June, 1847, as per statement	£ 50,008 11 5
Add to December, as per contra	3,332 3 11
Total reserve fund	£ 53,340 15 4

The CHAIRMAN congratulated the proprietors on the favourable position of the bank, and stated, that the whole of the capital was untouched; and that when the amount of the workings of the branches for the past six months was added, they would be in possession of about 100,000*l.* beyond the capital of the bank. He had no doubt that the state of the colonies for the next 10 years would be much more prosperous than ever. By adhering to the same prudent course that had been adopted, he had no doubt that this would become one of the greatest colonial establishments of the country.

Mr. LEWIS moved, and Mr. G. R. ROBINSON seconded, the adoption of the report, which was passed unanimously.

Mr. HITCHENS asked, what portion of the investments consisted of Government stock?—The CHAIRMAN replied, 110,000*l.*—Mr. HITCHENS would rather that the surplus funds should be invested in something that was more from hand to hand—such as India Bonds or Exchequer Bills. Government stock was not the best medium, for they had seen it fluctuate at least 20 per cent. within the last 12 months.

A PROPRIETOR asked, if it were not possible to consolidate the 2*l.* 10*s.* shares with the 25*l.* shares.—The CHAIRMAN thought it not advisable, as the time might come when they would be happy of the opportunity of paying them up.

Mr. ROBERTS then moved a vote of thanks to the directors.—Mr. JAMES seconded it.—The meeting then adjourned.

AUSTRALIAN AGRICULTURAL COMPANY.

The annual meeting of this company was held yesterday (Friday), at the offices in King's Arms Yard, Moorgate-street.

J. S. BROWNRIGG, Esq., in the chair.

Mr. ENGSTROM, the secretary, read the report, which was, on the whole, very satisfactory, as showing a decided improvement over the preceding year of 1845. The casualties amongst the flocks had been very heavy, owing to the severe drought which had visited the colony. To give some idea of the state of the season of 1846, it appeared that only 10 inches of rain had fallen for the first seven months against 26 inches—the mean quantity of the years 1843, 1844, and 1845—which is little more than one-third of what is usual; and this small quantity had been speedily dried up, which was the cause of the calamity. Some very interesting extracts were read from the company's commissioner's despatches, confirmatory of the state of the season. On the 31st December, 1846, the company's live stock consisted of 111,696 sheep, 7523 horned cattle, 1039 horses and ponies, 71 asses and mules. During the year, the live stock sold had amounted to 3656*l.* The coals sold were 33,979 tons, being 10,707 tons more than in the previous years. The directors congratulated the proprietors on this large increase in the sale of coals, which had augmented the revenue on this account upwards of 2000*l.* They had imported 584 bales of wool, 76 casks of tallow, besides hides, hornestips, &c. The surplus revenue for the year showed a sum of 9741*l.* 13*s.* 8*d.*, which enabled the directors to declare a dividend of 1*l.* per share on the paid-up capital of the company, being at the rate of 3*l.* 6*s.* 8*d.* per cent. per annum. It was further reported that the Government had granted the company the fee-simple of their coal property, in addition to their agricultural lands. The report was adopted, and the directors and auditors re-elected, when the meeting adjourned.

THE CLARENCE RAILWAY.

A special meeting of proprietors was held at the George and Vulture Inn, Cornhill, on Tuesday last—HENRY BLANSHARD, Esq., in the chair.—The meeting was convened for the purpose of receiving and approving the following documents, viz.:—1. The draft of a surrender by the Stockton and Hartlepool Railway Company to the Clarence Railway Company, of the existing lease of the Clarence Railway and its appurtenances, dated 2d September, 1844, and of the railway and premises comprised in and demised by such lease, and of all the term and interest thereby demised.—2. The draft of a proposed lease of the Clarence Railway to the Leeds and Thirsk Railway Company.—3. The draft of a bill, to be introduced in the present session, for authorising an amalgamation of the Clarence and the Leeds and Thirsk Railway Companies.—4. The draft of a proposed agreement between the proprietors of the Clarence Railway and the Leeds and Thirsk Railway Company, for the sale to, and purchase by, the Leeds and Thirsk Company, of the Clarence Railway, with its appurtenances.—These several documents having been read, resolutions in approval of the same were unanimously carried, after a short discussion. Thanks were then voted to the chairman, and the meeting separated.

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

*** We should feel obliged to all purers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

"Z." (City).—What does our correspondent mean?—if he has any grounds for his assertions, or the course he wishes us to adopt, why not furnish some particulars?

"J. H. M." (Edinburgh) shall receive the particulars in the course of next week.

"E. M." (Dolcoath Mine) surely did not intend his letter for insertion—possibly, however, he may find its contents referred to in another shape.

"W. R." (Wigan) should apply to Mr. Weale, bookseller, High Holborn, who will readily supply the information.

"J. M.," on the Divining Rod, in our next.

Glossary of Mining Terms.

With our last Number we gave the Glossary of Mining and Smelting Terms, as far as we were enabled to procure them; in our next Journal, we shall give the South Staffordshire Mining Terms, with which we have since been favoured by a correspondent,—and shall have much pleasure in adding future contributions.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JANUARY 29, 1848.

There has been no abatement in the fulness of the money market, nor any retrogression in the ascending movement of the public funds, since our last publication. A further reduction in the Bank price of money is hourly expected, and the symptoms are daily increasing of a perfectly re-established confidence in every department of trade and commerce. In the midst of all this, it must be admitted, that business, in general, is neither buoyant nor lively. We cannot assign any sufficient cause for the protracted torpor, but we believe it arises chiefly from the depth and universality of our recent alarms, which a tolerably long course of quiet and successful commerce only will be able altogether to remove. As the value of money is still descending, general prices, as an economic law, must go up. In times of pressure, and of scarcity of the precious metals, prices, as a matter of course, go down; but when the country is full of gold and silver, and accommodation can be had almost at the borrower's own price, then the value of the staple products of that country, where this fulness of money reigns, will be directly and necessarily enhanced; this will, we fully expect, be shortly realised in the rallying and advancing prices of iron and copper. It will be a perfectly seasonable improvement, as to the first of these great products; for the difficulties of the iron districts cannot but be very great, considering the non-remunerative quotations which have recently been agreed to, and the exceedingly lessened employment procurable in this important branch of industry; but in respect of this, and almost of every other, for the moment, checked and clouded interest of these islands, there is, there can be, no reason to apprehend a permanent depression—for all the elements of an active and successful commerce are, at this moment, as fully within our reach, as they have been any day since we launched the first vessel, or put in motion the first loom.

It would, by no means, be an easy task to suggest an improvement more likely to increase the popularity of mining operations, than an authentic quarterly publication of the aggregate yield of the mines of the United Kingdom, in tons of produce, and in sterling money. It is true that this, in a sense, has been long and regularly done. We have ourselves been no ninth-rate contributors to that good work; but the returns, at the best of times, have wanted fulness and generalisation. When it is remembered, that the iron mines alone send to the surface as much ore as yields nothing short of 2,000,000 tons of metal annually, and that the miners in this single department, with their families, are to be counted by tens of thousands, it will be felt that this extent of occupation, with the greatness of the capital necessarily engaged, requires a more general and a more authorised elucidation than it has yet received. Moreover, in enumerating iron, we are but at the commencement of the catalogue of mining products. Copper, tin, and lead, may be said to be further branches of the great vine, which reaches from one end of the kingdom to the other. Coals, also, are as absolute a mineral as gold, and, in some important senses, a more valuable one; but, considering the specific and peculiar circumstances of mining in this instance, we neither cover nor include coals, in the proposition now submitted. Our object and purpose is, to furnish the mining world with a more full and general quarterly account of the metallic produce of these islands, than the returns hitherto available for that purpose have furnished a sufficient data for supplying. If we are favoured with merely a reasonable support by the competent parties resident in the districts in which the returns must originate, we shall realise the objects contemplated; upon that support, we trust, we may confidently calculate. It would, of course, be quite beyond the reason of the case, that a London Journal should have local agents specially designated to this work—the utility of the measure proposed ought to win for it the requisite zeal and encouragement. The public, among whom there is always a tolerably liberal sprinkling of out-adventurers, will, we doubt not, duly appreciate the value of the enlarged quarterly statement, which we hope it will be in our power to furnish. For our own part, we think it of all things certain, that a great and increasing branch of public industry has nothing either to fear or to lose, but much to gain, and to be glad of, by the fullest and most comprehensive publication of its progress from quarter to quarter.

Next Monday, the 31st inst., is looked forward to as an important era in the history of Swansea. Capable of being made, by the construction of efficient docks, the first port on the western coast, a project was set on foot, and a company formed, for the construction of suitable works, and an Act of Parliament obtained, for the purchase of land, and giving other necessary powers. Unhappily, a spirit of dissension appears to have existed at first between some of the Swansea and London proprietors, which, at length, broke into open rupture—the Swansea party at one of their meetings denying the legal existence of any London directory, or secretary, and passing resolutions taking the affairs into their own hands, notwithstanding that the London shareholders hold the largest stake, nearly 3000*l.* paid by them is still in the Commercial Bank of London, and the Act of Parliament distinctly provides for a London board. The second ordinary meeting of proprietors takes place on Monday; and we trust there will be exhibited a feeling of conciliation and good will, which will remove the unfortunate differences at present prevailing, and urge all parties to merge every diversity of opinion, in helping to forward a cause on which in a great measure depends the future advancement of the prosperity and greatness of Swansea. The proprietors at this meeting have powers which they will never again possess, in the confirmation of the directors named in the special Act; and only at one meeting in each year have they the power of re-electing retiring directors, or electing others to supply their places.

The following is the clause in the Act (8 Vic., c. 16, s. 83), giving this power; and, under present circumstances, it appears to us, that the very existence of the company, the security of the powers conferred by the Act of Parliament, and the formation of docks, within a period likely alone to be advantageous, in a great measure depend on the decision come to in the confirmation of the directors, named in the Act, or otherwise:—"The directors appointed by the special Act shall, unless thereby otherwise provided, continue in office until the first ordinary meeting to be held in the year next after that in which the special Act shall have passed; and at such meeting the shareholders present, personally or by proxy, may either continue in office the directors appointed by the special Act, or any number of them, or may elect a new body of directors, or directors to supply the places of those not continued in office, the directors appointed by the special Act being eligible as members of such new body; and at the first ordinary meeting to be held every year thereafter, the shareholders present, personally or by proxy, shall elect persons to supply the places of the directors then retiring from office, agreeably to the provisions hereinafter contained; and the several persons elected at any such meeting being neither removed nor disqualified, nor having resigned, shall continue to be directors until others are elected in their stead, or hereinafter mentioned."

Here, then, is an opportunity of exercising these powers, and securing to the town the benefits which must accrue in fully carrying out the provisions of the Act; and, while the docks would absolutely ultimately prove of *national* advantage, they are certain to pay a handsome return to the shareholders in the company. Such an opportunity for proving the maxim, that "union is strength," may never occur to the proprietors again, or a more appropriate period for active exertion towards the commencement of the work. The opening of a new, and, most probably, an active and stirring, year—and the fact, that the series of railways in South Wales, connecting Swansea with every part of the kingdom, will, in little more than a year, be fast advancing towards completion—offer irresistible arguments for the necessity of pulling with hand and heart in one direction; and we trust, in our report of the approaching meeting, we shall have to congratulate the proprietors and the inhabitants of the town and neighbourhood, that there is every prospect of a speedy commencement, and successful completion, of the "Swansea Docks."

A report of a meeting of some of the leading landowners in Cornwall will be found in another column—the object being to appoint a deputation, to consult and advise with the county Members, on the best means to be adopted, to secure the present rate of duty on foreign copper ores. Our contemporary, the *Royal Cornwall Gazette*, is reiterating his doleful lamentations on the ruinous state of our mines, and still thinks that the repeal of this remaining stay would involve Cornwall in one common ruin. Having so fully endeavoured to refute this futile idea, we shall not at present enter at length into the subject; the question must now very shortly be brought before Parliament, when we shall have another and more fitting opportunity of showing, that these are not times for even continuing restrictions on any branch of our commercial interests.

SUBSTITUTE FOR QUICKSILVER IN EXTRACTING SILVER ORES.—*El Comercio*, a newspaper of Lima, states, that in a mine of the district of Cajatambo, a new invention is employed, by which silver is extracted, without the employment of quicksilver. The invention is said to be exceedingly simple. It will even extract silver from any metal whatever with incredible facility and extraordinary purity. No description is, unfortunately, given of this new invention, but we doubt not these few lines will suffice to call general attention to it. If it really possesses the wonderful properties ascribed to it, it is an immense discovery—not only for the silver mines of America, but for the whole world. To do away with the use of quicksilver in extracting ores, would have the effect of greatly reducing the price of silver.

MINING IN ALGERIA.—For the purpose of carrying out the great object of the French Government, with respect to the full development of the mineral riches of Algeria, the Minister of Public Works has given notice, that at an early period of the approaching spring, contracts will be entered into, for the erection of schools of industry and mining, for the purpose of giving a complete professional education to those who are willing to devote themselves to mineralogy and practical mining operations in that country. To give every facility for carrying out the objects intended, roads are to be formed, to make an easy communication with the mountain districts, where large deposits of iron ore are known to exist, in addition to extensive lodes of copper, lead, and other metals. A trunk line of railway is to be constructed from Algiers to Constantina, with branches to Bona and the coast, to facilitate, in all directions, the carriage of minerals; and an electric telegraph will be erected between the two former places, that every information, from all parts of the country, may immediately reach head quarters, and put all parties on their guard, in case of any hostile attacks of the still faithful followers of Abd-el-Kader among the Arab hordes. To give full effect to all these preparations, a free passage will be given to a certain number annually of emigrants, particularly from the mining and manufacturing districts of France, and a certain portion of land will be allotted to each family. In the interim, before these great objects can be effected, every encouragement is being given to French, German, and Spanish miners, to emigrate, for whom large establishments, in the shape of barracks, will be erected—thus giving encouragement to capitalists to form companies, and immediately take concessions, and commence explorations. The whole body of male emigrants will be incorporated as a national guard, and the army in Algeria will be reduced from 110,000 men—the present effective force—to about 60,000, of which body 15,000 will be cavalry.

IMPROVEMENTS IN THE STEAM-ENGINE.—Mr. W. B. Johnson, of Manchester, has taken out a patent for several improvements in the construction of the locomotive engine, which we cannot describe without the necessary diagrams, but for which he claims as follows—viz.: 1. A different mode of placing the driving or coupled axles of locomotives.—2. The use of a chamber, or chambers, situated between the tubes, leading from the smoke-box to the fire-box.—3. The employment, or use, of a shaft, for carrying the eccentrics for working the slide valves, or pumps, or for giving motion to any other operative part.—4. The employment of an eccentric, or eccentrics, with friction rollers.—5. The use of plates, or valves, working underneath the usual slide valves for working steam expansively, shutting it off, and reversing the motion.—6. The use of an expanding slide, or block.—7. The general arrangement of a locomotive engine, mode of coupling, &c.—8. Working signals, or whistles, for engines, by means of exhausted air.

THE CONWAY TUBULAR BRIDGE.—A correspondent says—"The Chester and Holyhead Railway Company have received notice, dated from Conway, Jan. 25, that, on an experimental test of the tube, destined to span the Conway river, the deflection of the tube, supporting its own weight, is only seven-eighths of an inch out of the level along the bottom; and, their engineer adds, everything is perfectly right, and, *beyond doubt*, successful." The span of the Conway Bridge is about 430 ft.; but, immense as it is, it is yet less than the span of the bridge across the Menai Straits, for which Mare and Co., of Blackwall, are making the tubes. The Menai Bridge will have two spans of 450 ft. each, besides the land spans of 220 ft. each. We quote the following from the *Chester Courant*:—"By last Thursday, we understand, about 200 ft. out of 400 of the wooden supports to the tube have been removed, with which the tube exhibited no sensible deflection. When they are all removed, the bridge will rest on two temporary pillars, constructed under its ends, for the purpose of testing it. By this day, it is expected the whole will be removed, and the invention be fully tested. After that it will, with all expedition, be floated to the piers in the river, and raised to its proper place. In a work of this sort so much uncertainty exists, that credit is due to the engineers, for having hit the time so nearly as they have. We understand Mr. Brunel was there the other other day inspecting the bridge. If all things go on well, it is expected that the line to Bangor, 59½ miles from Chester, will be opened for goods traffic by the 1st of March."

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The following are returns of the importations which have been made into France during the last three years—(I retain the French measures, for the sake of greater correctness; but in calculating 10 metrical quintals to the English ton, your readers will have the English measures with sufficient exactitude for all practical purposes):—

	1847. Met. quin.	1846. Met. quin.	1845. Met. quin.
Copper, pure, of the first fusion:—			
From England	36,375	45,463	70,965
Chili	11,167	7,213	2,032
Other places	28,312	22,709	22,879
	77,854	75,475	95,876
Tin	15,350	18,144	21,766
Cast-iron, unwrought:—			
From England	327,520	364,886	230,271
Belgium	591,780	457,485	295,667
Other places	40,111	34,994	27,204
	959,411	857,365	553,142
Lead	184,569	205,042	185,928
Coals:—			
From England	4,889,527	5,386,735	4,957,610
Belgium	14,826,908	12,298,668	13,245,641
Zollverein	2,001,359	1,749,808	1,919,873
Other places	12,292	3,504	1,753
	21,730,176	19,438,715	20,124,857
Zinc, of the first fusion:—			
From the Zollverein	37,658	17,807	41,099
Belgium	43,795	50,444	49,330
Hanse Towns	38,121	26,899	25,917
Other places	25,487	22,462	19,624
	145,061	117,612	135,970

The amount of duty levied on these importations in 1847 was—on copper, 5934*l.*; tin, 1130*l.*; cast-iron, 212,513*l.*; lead, 45,423*l.*; coal, 203,767*l.*; zinc, 2533*l.*—total, 471,300*l.*

The figures which precede are not, on the whole, very flattering to England. In copper, the imports made from her by France have fallen off nearly one-half from 1845; whilst those from Chili, in the same period, have increased five-fold; and yet it is proposed to check still further, or rather to destroy altogether, the importation from England, by greatly increasing the import duty; whilst, on the other hand, it is proposed to extend every possible facility to the introduction of copper ores from Chili; first, because the treatment of them in this country will lead to the extension of a branch of metallurgy, which, at present, is of no very great importance; and next, because the necessity of going to Chili to seek the ores, will open a new field to the merchant navy of France, which is in such a deplorable state of decadence. Whether these notable schemes will be carried into effect or not, a few weeks will show; but whether they be, or be not, the question arises, whence comes the extraordinary falling off in the imports of English copper to this country? I believe an answer to the question would be difficult—at all events, the three or four persons whom I have consulted, declare that they are unable to give a reply fully satisfactory. The fact of the decreased imports will, no doubt, be made the most of by such of your Cornwall friends, as object to any meddling with the English copper duties.

The returns do not specify where the imports of tin are made from; but we may safely assume that the whole, or, at least, the greater part, came from Cornwall. The decline in tin is considerable, which is a fact particularly worthy of remark, for France possesses no tin, and no country can vie with England in that article.

With respect to cast-iron, the returns, it will be seen, are satisfactory; but still the increase they show in our products, is not so great as in those of Belgium—for, whilst ours have only increased about one-third since 1845, those of Belgium have doubled; from other countries, also, the increase, in the same interval, has likewise nearly doubled. It may seem strange, that Belgium, which is itself obliged to import cast-iron from England and Scotland, should be able to send more cast-iron to France than England; but the French tariff is so contrived as to favour that result.

As regards coal, we have not, it will be seen, much to boast of—the importations into France having been less last year than in either of the two preceding; whilst those of Belgium have increased, and are, in round numbers, twice as much as ours. But this arises not from Belgium coal being better than ours, but from the advantage which Belgium possesses, of being united to a great coal-consuming district of France by railways; and, above all, to the absurd and iniquitous privilege which it enjoys, of being able to introduce its coal, on the payment of a lower duty than the English are obliged to pay. The English Government ought to be called on to remonstrate with the French Cabinet against the present coal tariff. Sir Robert Peel's reform created immense advantages to France, for which we have not received the slightest return. Surely, then, we might at least expect France to place our coal on the same footing as that of the Belgians, especially as such a concession would, in truth, be promoting her own interests—hundreds of her manufacturers being loud in their complaints, of the injury they suffer from the heavy duty on our coal.

The board of directors of the railway from Tours to Nantes notify that they will receive propositions up to the 10th February next, for the supply of coke to the railway during the years 1848 and 1849. This may be worth the attention of some of your readers, as it is not at all improbable that they could take the contract on more favourable terms to the company than any French house. By delivering the coke at Nantes, no very great expense would have to be incurred for land carriage.

The Navy Department advertises that it will receive the following contracts:—On 26th of February, at Nantes, 3000 tons of coal, 500 tons of Welsh or Grand' Combe coal, 40 tons of small coal for forges, 500 tons of coal for coke; on 26th February, 6000 tons of coal at Cherbourg; same date at L'Orient, 25 tons of lead in pigs; same date, 3000 tons of cast-iron.

The great argument of the opponents of the Compagnie Generale des Mines de la Loire has always been, that the union of so many different mines and concessions into one concern was *illegal*. The Civil Tribunal of the Seine has just set that point at rest. In a case arising out of a dispute between a large shareholder of the mines of Monbrambert and Quartier Galliard and the directors of the said mines, the question arose, whether the union of the mines to those of the Compagnie Generale was *illegal*; and the tribunal has laid down, in a long and careful judgment, that it was, and is, perfectly *legal*.

Coal in considerable quantities has, it is said, been discovered in the Faro Islands, and the Government of Denmark has taken measures for having the coal-fields worked. The field in one of the islands is said to be six miles long, by two wide.

The people engaged in the manufacture and sale of salt are actively engaged in their opposition to the measure of the Government, for making a monopoly of it. They have already formed a committee at Paris, to watch over their interests, and are preparing documents to prove the gross injustice of the bill. In the Chamber of Deputies, it appears that the new bill has given no satisfaction. M. Demasmay, a deputy who has made the salt question his own, and who, perhaps, understands it better than any man in France, has boldly declared against the measure.

A meeting of the shareholders of the Company for the Galvanisation des fers et des fontes, is called for the 6th February, for the purpose of modifying the bye-laws.

In 1844, the importation of coal into Algeria produced a revenue of 954,173 fr.; and in 1845, of 1,024,391 fr.: of iron, cast-iron, and steel, 704,172 fr. in 1844; and 919,058 fr. in 1845. On cutlery the importation yielded 74,893 fr. in 1844; and 89,380 fr. in 1845.—*Paris, Wednesday.*

BELGIUM.—Complaints having been made of the small amount received by the Government for the rent of mines, and of the objectionable manner in which it is levied, considerable discussion has taken place in the mining circles on the subject, and many propositions have been put forward for establishing a more favourable system. The scheme, which appears to have met with most favour, contains the following principal features:—That the coal mines shall be divided into eight classes—the maximum to be paid by the first-class for 12 months' working to be 48*l.*; and by the last class, 5*l.* This, it is calculated, would yield upwards of 10,000*l.*—whilst it would not add one-half per cent. to the cost of the coal extracted. It is also proposed to make metallic mines, which at present pay nothing, pay a regular rent; and it is calculated that, at a low estimate, they would yield 500*l.* a year; it is, likewise, recommended that, in addition to what is called a proportional rent—that is, a per centage on their products—the coal-pits shall pay a fixed rent; and it is further recommended, that a tax shall be imposed on every demand for the concession of any mine. From these different sources, it is believed that a regular revenue, of at least 12,000*l.* a year, might be obtained, without weighing at all burdensomely on the mining interest, or, through it, on the public; and this revenue would be more than sufficient to cover the outlay of the Government for the staff of mining engineers, &c. The plan of levying the rents, which is at present in operation, is most objectionable, both to the Government and the mining interest; and the new measure to which I refer is calculated to remove all objections.

The Vieille Montagne pays 300*l.* a year to the Government for the calamine which it extracts.

Our journals speak of a new invention for preventing the fall of *cuffats* (as the vessels, or boxes, which contain coal or ore are called) from the breaking of cords or chains, when being drawn up from the mine. The nature of the invention is not described; but the perfect success of it is practically asserted. It is stated, for example, that, a few days ago, a *cuffat*, containing its ordinary weight, was raised, by means of the new invention, to a height of above 300 yards above the ground; the ropes to which the *cuffat* was attached were then cut; but the *cuffat*, instead of falling to the ground, merely slipped a few inches down the beam, or post. The experiment was made at the coal-pit of the Bois d' Avroy, near Liege. The inventor is M. Jouquet. Another experiment, made subsequently, proved that, in the event of the cord breaking at the mouth of the mine, and falling into the *cuffat*, the latter would still be raised without difficulty, notwithstanding the weight was nearly double that of the ordinary weight of the *cuffat* and its contents.

A Royal decree has just authorised the company Cockerill, of Seraing, to construct two new furnaces for the fusion of iron ore—making six in all. Now, I perceive, by a journal of Liege, that the two new furnaces in question are not only constructed, but have been in operation, for upwards of a year! Similar circumstances are quite notorious in the mining districts. One of two things is, therefore, evident—either the obligation on the proprietors of metallurgic establishments of obtaining the permission of the Government for building and opening new furnaces, &c., is a piece of childish and useless formality, or the said proprietors are guilty of a gross breach of the law, in taking upon themselves to bring their furnaces into operation before the permission is accorded. Which of these two things is the true one, your readers will have no difficulty in deciding. In England, the Government never meddles in any such way with metallurgic establishments; and yet the liberty left to them is never injurious to the public. The Belgians should endeavour to obtain the same liberty. Officious, and silly, and useless meddling of Government officials in metallurgic and mining enterprises, may do in France; but it is a positive nuisance in Belgium.

The interest on the shares of the coal-pits of Hornu and Wasmes for 1846, is 33 fr. 65 c. per share. The interest on the shares of the respected companies of the pits of the Flenu and of the Levant du Flenu have been paid.

A maintenance and extension of the concession of the coal-pits of Bonhouille, have recently been accorded by the Government to the representatives of M. Selys, the late holder; and of the mines of Argenteau to the present holders.

On the 2d February, the Minister of Public Works is to receive contracts for the supply of the rails and chairs necessary for the State Railway in 1848.

The Company of the Coal-Pits of Midi de Dour et des Chevalières has been authorised to construct a railway from the shaft St. Catherine, to the railway of St. Ghislain.

A general meeting of the shareholders of the Houpres-sur-Sambre Iron-Works, is called for the 14th of February.—*Brussels, Tuesday.*

IMPROVEMENT IN BRICK-MOULDING.

We have recently been favoured with an inspection of a novel, ingenious, and highly-efficacious machine, for forming bricks, tiles, or other similar plastic articles with plane surfaces. It is the invention of, and has been patented by, M. Legros, and some gentlemen connected with him, and is well worthy inspection. The machine consists of a double line of rails, with a return rail at right angles, at each end connected by turn-tables with the up and down lines. The moulds for the bricks are on the surface of railway waggons, eight in each, and in the model under notice six waggons form the train, holding 48 moulds. In each mould is a moveable bottom, or piston, with rod presented downwards, at the end of which is a wheel, or friction roller. On starting the miniature train the pistons are level with the top of the moulds; the rollers then pass over an incline bar, or plane, when they gradually descend, and, arriving under the "sanding box" (the first operation), the moulds are ready for working. This is a sheet-iron box, with a perforated bottom, which is again covered with sheet-iron, opened by a lever, which allows a moderate quantity of fine sand to shower into the moulds, and prevent the clay from sticking, which, on its being placed in the mould, is double the thickness of the intended brick, to allow for ample compression. The train next passes under the filling apparatus, which is very ingeniously contrived, and where an equal quantity of clay is distributed to each mould, receiving also equal pressure, when the train passes on to the turn-table by thence to the cross rail, from thence by the other corner turn-table on to the down line of rails. On this down line is the compressing plate, under which are incline rails, so contrived as, by acting on the friction wheels, to press the bricks to the intended thickness; and, as the several series of moulds pass from under the plate, the pistons, or false bottoms, force the bricks out on a level with the upper edges of the moulds, when the train can pass on to the drying place, for their removal. By this apparatus the bricks, or tiles, are much more dense and ponderous than by the hand method, are much sooner ready for the kiln, and, by the great pressure they receive in making, are less porous and more durable than others. By the prospectus, it is stated that on 6,000,000 bricks, which can be made by one machine in a year, there would be a saving of 1250*l.*, and that on the number made in the neighbourhood of London—viz.: 1,200,000,000—the saving will be 250,000*l.*

MANAGEMENT OF JOINT-STOCK BANKING COMPANIES.—We have received from a correspondent a communication, in which he states, that he is largely interested in a joint-stock bank, which failed some months since—that a call was made a short time after the suspension, and a statement of the affairs of the company published, showing a considerable surplus, on which occasion the directors recommended the resumption of business; and to consider and decide on which, a meeting is to be held in a few weeks. In the mean time, our correspondent has been obliged to pay the call on the shares he holds; this he does not object to, as being a partner—it is but just to share alike in profits, or liabilities; but what he loudly complains of is, what he terms the "injustice" of compelling him to continue a shareholder, if the proprietors present at the meeting decide upon resuming business. He considers, that when a banking company fails, every partner should have the power of withdrawing his capital after all debts due are liquidated, as it is probable a majority in favour of resumption may be composed of persons interested from personal motives of convenience, in their connection with the bank management. It is true, many votes for resumption would be given by parties entirely ignorant of the company's affairs; but he believes that the managers of all the joint-stock banks, which have failed during the past 12 years, have been proved to have granted credits to their own friends to a most unjustifiable extent. All, however, he contends for is, that if the majority decide upon resuming business, they should pay off his shares at *par*; and he is willing to give up all claim to any surplus—as it is, he cannot get shillings for the pounds his shares have cost him. We cannot think our correspondent has any true cause of complaint—a joint-stock company is very different to a private partnership. We apprehend he read the Act of Parliament and the Deed of Settlement, and bought the shares with his eyes open. If there is no clause, as in the Cost-book System of mining, providing for retirement from future liability, the circumstances must be abided by; and we think it doubtful how far such a regulation, in large undertakings, would be beneficial, as the real capital, from caprice or fear, would be continually fluctuating, a large number of shares thrown on the company's hands, and confidence destroyed. It is highly probable, if the company resume, that the value of the shares will rise.

Mr. Nasmyth, of Patricroft, near Manchester, the inventor of the direct-action steam-hammer, and of the steam pile-driver, has been presented, by the Emperor of Russia, with a magnificent diamond ring, as an expression of his satisfaction with the working of the pile-drivers erected by Nasmyth and Gaskill at Cronstadt, and of which Mr. Nasmyth had presented elaborate drawings to his Imperial Majesty.

Two French engineers have just been charged, by the municipality of Cologne, to throw a suspension-bridge over the Rhine in that city, similar to the magnificent one over the Danube at Ofen, in Hungary. The new bridge is to have a pile in the middle of the river, and will cost 150,000 thalers, or 600,000 francs.

THE LAWS RELATIVE TO PATENTED INVENTIONS.

The patent laws of England, the manner in which they are administered, the enormous number of law-suits, resulting therefrom, and the unjust and indefensible amount of the fees paid for obtaining a patent, has long been a subject of loud and indignant complaint, by all who have in any way become interested or acquainted with their application and mode of working. Instead of being made for the protection and advance of science, and the securing to persevering genius the reward due to enterprise and successful scientific intellectual study, they would appear to be devised for the very purpose of breeding suits at law, filling the pockets of lawyers, still further swelling the overflowing coffers of the Court of Chancery, and providing snug pickings for the drones who are fortunate enough to get located, through interest, in those three pretty nests for sinecurists—the Patent Office, the Roll's Office, and the Petty Bag Office; the modes of proceeding in which are absolutely laughable, and beneath contempt. Founded in days of absolute barbarism, they are among some of our professional institutions which have not come within the radius of the sweeping broom of reform; and it is now high time that some bold measures should be adopted by men of science, and those interested in the advancement of engineering and mechanical improvement, to secure the introduction of a bill into Parliament for an entire remodification of the Patent Laws, based on just and sound principles, and securing to inventors and capitalists, assisting in the development of scientific improvement, that which they have always professed to do, and to which they are justly entitled—an indemnification for previous outlay, by making them, their executors, and assigns, the sole vendors for a definite period, and tending to prevent, by heavy penalties, those barefaced and shameful infringements, which, at present, so disgrace the present system. This is now the more called for, from the immense increase in the number of patents and registrations continually being taken out, and from the large capital sunk in undertakings based on improvements in mechanical and ornamental science.

The various European patent laws have always been considered far before our own; and still the Belgian Legislature is passing a bill completely remodelling the laws, and rendering them more applicable to the present age of inventive genius. Belgium, as a mining and manufacturing country, is rapidly progressing; and we shall do well if the example thus set us is immediately followed up. In this country—thanks (?) to Mr. Sergeant Talfourd's Bill—a person who writes a book can secure to himself and family, for upwards of 40 years, its sole publication, or copyright, on payment of 5s.—while the man of science, who, after years of toil and expense, has produced a machine which benefits the world, can only secure it to himself for 14 years, and that at a cost of 450*l.*! and then open to infringement by numerous unprincipled manufacturers, who trust to the glorious uncertainty of the laws for perfect impunity. Can such anomalies be allowed longer to exist? The Belgian bill proposes to establish three classes of patents—1, for inventions; 2, for improvements, and 3, for imported inventions, or improvements. Every patentee to have the monopoly of manufacturing his invention during 99 years, and the sole selling during 15 years; every application for a patent to be published in a special gazette, cost not less than 25 fr. for a page of letterpress, nor more than 50 fr. for a quarto size of his engraving, and to be furnished with 50 copies; poor inventors and workmen to be exempt from this expense; oppositions can be entered for four months; and the patent, when granted, not to be impeachable at law. The patentee is to pay to Government 10 fr. the first year, to be increased by 10 fr. every successive year, and an additional 10 fr. every fifth year—so that the whole, in the 99th year, will amount to 10,350 fr. Knowingly concealing, selling, advertising, or exposing an article, which infringes a patent mark, and, after due notice, parties who shall continue to purchase, are to be fined from 100 to 2000 fr., without reference to damages, which may be sought for by the patentee, and which are never to be less than 1500 fr. In case of a repetition of an offence, a punishment of six months' imprisonment is to be inflicted, subject to commutation, by arrangement with the patentee. These are a few of the main features of the bill; and we hope soon to see something of a similar law adopted in this country. The whole bill is well worthy perusal by inventors and patentees.

A NEW WATER TELEGRAPH.

The electric telegraph, which has caused, and very naturally, so much discussion, so much admiration, and so much competition, throughout Europe and America, has done wonders, in this age of astonishment and enlightenment, for the spread of knowledge, the advance of civilisation, and the facilities of commerce throughout the world. Notwithstanding this agile element is capable of transmitting intelligence with greater rapidity than any other mechanical agent known, we have this week inspected a simple, economical, and equally facile instrument, patented by Mr. Jowett, under the title of "the Hydraulic Telegraph," which, we think, where economy and simplicity are desirable, will be found exceedingly effective. It consists of a small cylinder and piston at each station, on the rod of which is a small indicator, pointing to a vertical column of the 26 letters of the alphabet, figures, or signs, which may be found effective; these cylinders are connected by a small pipe laid from station to station; and, when filled with water, one piston must be at its lowest point in the cylinder, the alphabet on the dial plate being inverted, commencing with A at the bottom, and in the other the piston must be at its highest point—the alphabet descending. On this arrangement being complete, the slightest movement of the piston at either station gives a corresponding reversed movement at the other, and will point to the same character on the dial-plate. The first motion gives warning by sounding a bell one, two, three, or more strokes, indicating the station required. Another arrangement is also made under the patent: a circular dial plate is used, on which are two alphabets, at the lower one of which the A is placed under the Z of the other, and traverses the contrary way, ending with Z under A. The outer circle of this dial is of some width, to allow of figures and a multiplicity of contracted sentences applicable to the subject of railways, and other purposes, as may be determined on, and by which, and the alphabets, a most intelligible conversation may be rapidly sustained. On the piston-rod is a toothed rack working into a wheel, on the axis of which is the index, and the teeth are so arranged, that one complete revolution of the indicator is made. A pinion takes into the index wheel, on which is a cam, or detent, which on the first motion raises and lets fall a hammer, striking a bell, to give notice that a communication has to be made. It is well known that water is an inelastic fluid, and unaffected in expansion at moderate temperatures; it is, therefore, capable in the above telegraph of giving the most delicate results; certainly at moderate distances. How far the friction would operate to its disadvantage at any given number of miles, practice alone must show; we think it would not be injurious at 40 or 50 miles, the tubes being nearly straight.

We have here endeavoured to give a popular and lucid description of the nature and application of the apparatus; nor is it our intention at present—nor, indeed, is it necessary—to express any opinion on the philosophy of its action at varying distances, or on the known laws of the motion of fluids through tubes, which operate differently, as the pipes are straight, bent, or turning sharp at right angles. We shall content ourselves with giving an abstract of the advantages, as laid down by the patentee and promoters in the prospectus—viz.: the economy in construction, only one-third of that by electricity; no expense after its first construction, derangement being impossible; no atmospheric changes can affect it, the tubes being underground; neither height, depth, sinuosity, or distances, can incapacitate the perfection of its principles; and, as to the latter, "if a tube, filled with water, extended from London to York, a pressure exerted on the liquid at the London extremity, would be instantaneously transmitted to the extremity at York"—this is from Dr. Lardner's *Cabinet Cyclopædia*. We think practice must alone determine its merits—say, forty or fifty miles of tube—while, we have no doubt, for short distances, the telegraph would work with facility, and, at the same time, with the greatest precision.

We with pleasure refer our readers, especially those interested in steam navigation, to a letter, signed "Wm. Burge," on the subject of propelling vessels with paddle-wheels, furnished by our intelligent correspondent, Mr. Thomas Motley. The subject is, unquestionably, one of considerable importance; and if, as it appears, an alteration can be made, so as to gain at least one-third more propulsive power, it must be clear, a very considerable saving in fuel, time, &c., would be thereby effected—we, therefore, particularly direct attention to the closing sentence of the communication

Original Correspondence.

DO THE SUN-BEAMS EXTINGUISH THE COMMON FIRE?

SIR,—The question often put—do the sun-beams extinguish the common fire?—is a curious one; and albeit the scepticism of the philosopher, and difficulty of a reply, must, it appears to me, be answered affirmatively. The solar spectrum consists of three distinct series of rays—calorific, colorific, and actinic. One of these may be easily intercepted by a prism of rock salt. It is the actinism of the sun-beam to which the phenomenon in this case is attributable—or, in other words, the chemical or deoxidising rays, as they were designated by the elder Herschell and Sir H. Davy; and their power seems sufficient to account for what common observation seems so clearly to establish:—

Si quis novisti rectius istis;
Candidus imperiti.

Portland-place, Hull, Jan. 26. ——— J. MURRAY.

A BEACON ON THE GODWIN SANDS!

SIR,—I must needs say, if the propositions for establishing a beacon on the Godwin Sands, and that have figured in your recent Numbers, are all that can be done, the case is truly a forlorn hope; and the fate which has overwhelmed Mr. Bush's plan, would most assuredly eventually overtake them. I had the honour to submit to the Admiralty a *new* and simple plan for the purpose, and of its success there can be no doubt. The Admiralty referred me to the elder brethren of the Trinity House, as appertaining to their province, who, in their turn, write me—"They do not at present contemplate establishing a beacon on the Godwin Sands." I am not surprised at this determination, after the numerous failures and heavy expenditure entailed. Beyond all doubt, however, it is more than a grand national question. It is one which belongs essentially to all the civilised Governments of the world, who have maritime enterprise at stake. What is the Thames Tunnel compared with this?—a baby toy—curious as the problem of the civil engineer, but of little practical value—while these treacherous quicksands are the sepulchres of thousands, and the sarcophagus of many a gallant and goodly ship. The spirit of the storm seems here to echo the ill-omened words written over the porch of the "Inferno of Dante:"—

"Lasciate speranza,
Che voi entrate."

Portland-place, Hull, Jan. 26. ——— J. MURRAY.

UNIVERSAL DELUGE, &c.

SIR,—Your captious correspondent, in his eagerness to have a thrust at me, has attacked Mr. Mushet, in order to obtain a peg on which to hang his lucubrations. The question respecting the manufacture of gun-cotton resolves itself into this simple proposition—is it allowable, on the principles of stern and inflexible justice to the community, for any Government to tolerate the manufacture of an article which may, and must, from its intractable nature, peril the lives of multitudes? I think not; and my argument is founded on the eternal and immutable principles of right and wrong. *Fiat justicia ruat cælum*, is the simple adage of my inference. It is false to say, that I meant to drag into the arena the testimony of the Biblical narrative, touching an universal deluge. I have entirely repudiated anything of the kind, and that in express and explicit terms; and your correspondent, before he brought the charge, ought to have known it, because I have already, in your Journal, expressed my sentiments to the contrary. I apprehend, that the phenomenon of an universal deluge, can be established by the *facts* of geology. Now, Mr. Editor, according to my dialectics, if a FACT be established, the mere inability to account for the circumstances by which it was brought about, or established, affects it in no wise, nor by any means attenuates its emphasis. It remains unchanged, and in the same prominent relief as ever.

Portland-place, Hull, Jan. 26. ——— J. MURRAY.

THE LATE MISS BENNET, THE GEOLOGIST.

SIR,—While memory wanders in retrospect over the circumstances and events of an unfortunate and romantic, but, I trust, an honourable and useful, life, the imagery that flits before the fancy, like "Ossian's ghosts," sometimes pains, and sometimes pleases, me. As the reminiscences of geology form a feature of my present day-dream-visions, I may as well, since I have given you a few *mems* concerning Miss Mary Anning, of Lyme Regis, complete the continuity, by a passing allusion to a lady, who has more recently passed "the bourne whence no traveller returns"—I mean the late lamented, and deservedly esteemed, Miss Bennet, of Norton-House, Wilts. The annals of geology have been enriched by the very excellent work on the Fossils of Wiltshire, by the late Miss Ethelred Bennet—a sister of the worthy Member for Wilts. This, her enduring monument, elicited the honorary suffrage of a doctor's diploma, from a foreign university. I remember, with much pleasure, my visit to Norton-House, and the courtesy of Miss Bennet and her estimable sister, whose predelictions were those of botany—"*Qualem descet esse sororem*"—and I felt much gratified by a sight of some choice and pretty plants in the conservatory. After dinner, Miss E. Bennet had the goodness to show me her rich, extensive, and choice collection, from the chalk of Wiltshire. The corallines, spongites, and alcyoni, from the chalk and greensand, it is almost superfluous to say, were select, numerous, and varied. Miss Bennet pointed out to me an *amygdaloidal pebble*, from the *solid chalk*—I believe, a *rara avis*—and readily passed a bristle through several spongites, &c.; thus demonstrating their true nature and structure. It is not, however, my present intention to describe in detail what would require columns to eliminate. Suffice it, therefore, to say, that I was not a little pleased, *inter alia*, with some fine specimens of fossil fish, from the *white lias* of Carmel and Lebanon, and Purbeck. The resemblance in localities so remote, with that so near, were startling.

Many years have now rolled away since I brought with me kindred fossil forms from the Euganean mountains of Northern Italy. In subsequent correspondence, the late Miss Bennet informed me, that the *marsupites ornatus*, deemed one of the *characteristics* of chalk, was all but unknown among the chalk fossils of Wiltshire, and that she possessed only a fragment of one!

Miss Bennet had the goodness to favour me with some fine specimens of the *terebra portlandica*, from the oolite of Portland, and also of the fossil *inmate* of the *spondylus*, or "thorny oyster"—the nature of which was first pointed out by Miss Bennet. This is a faint and passing tribute justly due to the memory of an accomplished lady, whose scientific excellence was only equalled by her active benevolence. J. MURRAY.

Portland-place, Hull, Jan. 27. ———

COMMUNICATION BETWEEN GUARD AND ENGINE-DRIVER.

SIR,—On the 8th inst., I submitted, through your Journal, some suggestions upon the important subject of communication between the guard and engine-driver of locomotive trains. I cannot help expressing my gratification on seeing my invention approved of by one of your intelligent correspondents in last week's Journal. I again take leave to explain another suggestion that had previously occurred to me—viz.: that, by fitting up the carriages with two sets of sheaves and lines, instead of one, it would supersede the necessity of turning the carriages at all; and with regard to the fixing and unfixing of the winch, that is a matter of detail easily arranged, if once the principle is admitted. I agree with "N. B.," that a flag might be used to communicate from the carriages to the guard; but it only would be useful during day-light—both of these suggestions I included in a communication, which I sent last week to the Engineers' Institution. Your correspondent observes, that the case of inebriety of the driver is a rare occurrence, and may not happen again; but, on reflection, I submit, that the apparatus will enable the guard to check and control the speed of the train on approaching dangerous curves—such as at Warrington junction, previously noticed—bridges, stations, &c., in ordinary, as well as provide for the extraordinary, occurrences of intoxication, accident, and illness, noticed in my former letter.

In the evidence taken, after the recent accident, near Woking, upon the South Western Railway, it was shown that the present principles of safety depend upon the following regulations of the company:—"The guard should be in the carriage next the engine—the breaksman on a carriage at the rear; the engine-driver and fireman must both keep a sharp look-out forward—use the breaks and stop the engine, as soon as the signal is given. Every guard, by Rule 30, is also bound to keep a look-out, and be prepared, on signal, to apply the break."

Now, it appears that Brown Smith, the guard of the passenger train, was sent down the line, and had ample time to signal the luggage train to stop; but, for some reason, yet unexplained, neither guard nor engine-driver seems to have acted upon any such communication; the train, therefore, ran right into the disabled passenger train, killing the engine-driver, and injuring many of the passengers. During the inquest, a juryman put the following important question to Mr. Young, one of the company's officers, then under examination:—"Supposing the guard of the luggage train had seen Brown Smith's signal lamp, how could he have communicated the fact of the danger to the engineman and stoker?"—*Answer*: "The guard has a signal lamp; and if the engineman and stoker keep a good look-out, as they ought to do, they would see his lamp and stop the train." The stopping then of the train depends upon the engineman or stoker perceiving the signal lamp of the guard, both stationed considerably in the rear. Now, it would appear incompatible with the duty which appertains to both of these first-mentioned functionaries, that they should have their attention abstracted from the affairs of the engine, and the look out a-head, to the distracting duty of watching signals at the rear of an extensive train. Had the signal, therefore, of Brown Smith, in this particular instance, been observed by the guard or breaksman of the luggage train, he could, by means of my apparatus, have, at once, operated upon the steam valve of the engine, and thereby prevented the fatal collision. I cannot close this communication without submitting one more observation, that the utmost injury that can accrue from even the misapplication of the apparatus is the temporary retardation of the train.

Newcastle-on-Tyne, Jan. 24. ——— MATTHIAS DUNN.

RAILWAY SIGNALS.

SIR,—The subject of a communication between the guard and engine-driver still continues one of great interest (very properly so), and to elicit proposals from various individuals, as means to effect so desirable an end, but I do not see that any have been noticed from quarters where they might naturally expect to be acted upon. The fact is, an objection exists, *in limine*, to any thing of the kind—it being said, that should any means within the indiscriminate reach of the passengers be employed to stop the train, it would be constantly interrupted by timid, or, perhaps, mischievous passengers, when no real occasion existed, to have recourse to such an expedient. If ultimately anything of the kind should be adopted, I am persuaded that no plan, except of a most simple nature, could be beneficially used, such as I, with great deference, suggested some time ago to a railway company—viz.: a flag contained within a brass tube of 5 ft. in length, with an inner rod, to which a flag is fixed, which pushed out, in a similar way as a pencil from its case, extends the staff to 7 ft—the flag unfolding itself on being pushed from the tube. Another flag, the same length, was also proposed, having a joint in the middle, and this, with the flag at the end, capable of folding together, and placed in a tin case to be taken from it when required. Either of these flags, it was proposed, should be suspended in each carriage. On an occasion, when it became necessary to stop the train, the signal flag to be held out of the window of the carriage, which, from the length of the staff, might be raised considerably above the roof of the carriage, and the guard, whose seat should be in the rear of the train on one side of it, facing the carriages, could not fail to see the flag thus displayed, and be at once directed to the particular carriage where his assistance was required.

The guard's proximity to the engine-driver would enable him to give notice by voice, without the aid of either bell or whistle—both of them objectionable for a variety of reasons. I also suggested a very effectual and ready way of disengaging the engine and tender from the train—or, indeed, any particular carriage—by simply pulling a cord within the reach of the engine-driver, or passengers in the carriages—the end being brought into the carriage, with a pull affixed to it. This cord acts upon a slip bolt, connecting the carriages together, which, on being raised, at once disunites the carriages, and sets them at liberty. In the use of this apparatus, it would, however, be necessary to dispense with the connecting chains at each side of the carriage, which do not appear to me to be of much use, and can only be so in the event of the coupling links giving way—of which I am not aware of a single instance having occurred. Had such means been adopted to free the carriages, some frightful accidents might have been avoided. With respect to the signal, were there a sufficient number of guards, it could not possibly escape notice, if proper vigilence was observed, and even at night would be perfectly conspicuous, from the light afforded by the carriage lamps. To prevent its improper use, parties making the signal might be charged by the company a certain sum of money, to be remitted at the discretion of the directors, should the case, on inquiry, warrant its being had recourse to. Z.

Jan. 26.

STOPPAGE OF RAILWAY WORKS—RAILWAY STOCK.

SIR,—It appears to me, that the stoppage of the railway works has become so serious a matter to the whole country, that the Government ought to take the interest they should have done long ago, by creating railway stock. Suppose they were at once to do this to the extent of 20,000,000*l.*, to pay 5 per cent. interest; then all the works might be resumed, and the country would gain 1,000,000*l.* for interest, which would enable them to repeal the tax on bricks and soap, and that again would create an immense trade. This security is the best that can be offered—in fact, we ought never to have an idle man in Great Britain, considering the resources we have. I cannot see any argument against my proposition; nor do I see any reason why, in a country so subject to failures of crops, that there should not be an agricultural board, to encourage cultivation, drainage, &c. What better security can be given, than the very land that produces our food? The Government ought always to be prepared to meet emergencies, and not allow the machinery of the country to stand still, thereby draining those who try to go on out of their last shilling—sending and compelling the best of our mechanics, miners, and forgemen, to seek employment in countries, which cannot command the capital we can do; yet other countries can afford to shelter and employ our men at better wages than they can get in this. Had those men been kept in constant employment here, we must have supplied the materials they are now making for foreign masters, and had the profit. All the money, people say, has been sunk in railroads; I wish they would raise a little of it up again—so that we could still carry them on: the railroads will never ruin the country.

Abergavenny, Jan. 24. ——— J. T.

SMELTING OF COPPER AND TIN ORES IN CORNWALL.

SIR,—In your Journal of the 22d inst., I perceive an article on the smelting of copper ores in Cornwall, in which I read the following sentence:—"Smelting, on a small scale, and limited, perhaps, to the tin ores, has, for a considerable period, been practised at Calenick and at Perranwell." Surely, Sir, this looks something like the professor getting his information, as to the manner of obtaining coal, &c., from the ancient records of the Tower. Is it possible, that the writer is unacquainted with the smelting-houses at Carvedras, Halgarrack, Melancar, Treloweth, Trereiffe, and Chyandour, and also the house at Truro, which sprung out of the Tin Miners' Association for Smelting, and which is now defunct? If so, then let me tell him, these smelting-houses are carried on by respectable companies, who purchase the tin in the best manner they can, not without competition; and, as a proof that fair prices are given, I beg to state, that the adventurers of Wheal Vor Mine sold, in 1845-6, upwards of 60,000*l.* worth of black tin, having, at the same time, a good smelting-house, master smelter, and furnacemen on the mine, without lighting the fires, except to run some prillion, and make a few tons of bars. As to the smelting of copper ores on this side of the Channel, I think the price of coal would be considerably advanced thereby, because the vessels, which now carry copper ores, would have to go in ballast for the coals, instead of loading each way; and good coals would not be procured for less than 20*s.* per ton at this place. If we then allow 2 tons of coals for reducing 1 ton of ores, I think the account would look something like *labour in vain*.—A TIN SMELTER: *Chyandour, Jan.* 27.

ON IMPROVING THE METHOD OF PROPELLING VESSELS WITH PADDLE WHEELS.

RESPECTED FRIEND,—Having requested a very old acquaintance (whom I consider highly competent) to furnish me with a short essay upon the principle of propelling vessels by means of paddle wheels, he has accordingly done so; and as I know your paper is open to receive scientific communications, I herewith send you my friend's reply, which I deem well worthy of public attention; and, as far as I can judge, it is a clear and important production.

Bristol, 1 mo. (Jan.) 18. ——— THOMAS MOTLEY.

SIR,—You were pleased, when in Bristol, to express a wish to have my opinion of the paddle wheel, as a propulsive power for steam navigation. My views of the subject, I feel great pleasure in forwarding to you: its investigation has been a labour of love, on my part, for the last 20 years, from a conviction that free communication, combined with safety, speed, and economy, is one of the best means of attaining—or, at least, of advancing—the true science of civilisation. I have put my ideas in the shape of an inquiry into the operation of a paddle wheel, and the economy of engine power used therein.

The following small essay is not a scientific investigation of how much engine power would be required to cause a paddle wheel to revolve any given number of revolutions per minute, or impel a vessel with any given velocity, but simply to analyse its structure and operation, so as to ascertain whether it may not be susceptible of considerable improvement. All mechanical science may be traced to one root, trigonometry; and nearly all the operative parts of all engines, from the watch to the steam-engine, to one branch of the same—viz., leverage. We except, of course, the motive power of steam, which acts upon all, as the mind does to the body in man, moving muscles, tendons, bones, and the whole animal machinery. It is, therefore, with leverage that we have to do on the one part, and with the laws which govern the action of bodies in fluids on the other part; and, first, of leverage:—As my object is to make the subject clearly understood by the simplest form of words, I shall, as far as possible, avoid technicalities, and omit mathematical definitions on the subject—the scale beam, steelyard, handspike, crowbar, &c., being levers, and their uses known to every one; but their certain appliances, immediately connected with what follows, require a few words of explanation.

The general mode of using the lever is to place the fulcrum, or bearing point, as near as possible to where the greatest force is required, using the moving power at the longer end or arm; in the oar the case is different—here the moving power is at the end of the shorter arm, and the fulcrum is converted into the point of propulsion, to be acted upon by the forces at both ends.

The paddle is the reverse of the mode last mentioned—here the forces at the two ends are opposed to motion, that the pull upon its centre might be the more effective, and the floor on which the man stands, or the seat on which he sits, becomes the propelling point. The action of the paddle wheel includes both modes—for when the crank is above the centre of the wheel, its action is that of the oar; and, when below, that of the paddle, which, when combined with its vertical action, establishes its name.

Having treated of the lever as a simple power, we will now view it as a component part of a wheel—speaking of its speed, or force, as the occasion may require, so as to arrive step by step at conclusions borne out by facts; and first of speed.

All parts of the periphery of any wheel, when set in motion, move through equal arcs in equal time; and, therefore, its speed, as regards the centre round which it moves, is equal. If any number of concentric circles be drawn within the periphery of any wheel, the relative speed of each circle will be as the distance from the centre round which it moves.

Fig. 1.

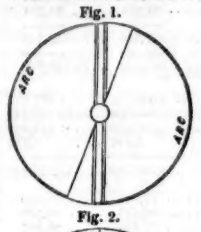


Fig. 2.

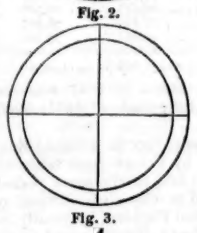
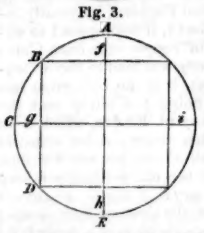


Fig. 3.



For example—If a wheel of 12 feet diameter, having an inner circle of 10 feet diameter, be made to revolve at the rate of 12 miles per hour, the inner circle would revolve at the rate of 10, and so of any greater or less comparative diameter.

Again, if a paddle wheel, of 18 feet diameter, and fitted with floats of 18-inch depth, be made to revolve at the rate of 12 miles per hour at its outer edge, or periphery, the inner edge of the floats will consequently revolve at the rate of 10, and their mean speed would be

12
10
—
2)22
—
11 miles per hour.

Speed—Vertical and Horizontal.

If a circle, A, B, C, D, E, having a square within it, *f, g, h, i*, be again bisected by two lines passing through its centre vertically and horizontally, it will be divided into eight equal parts.

If the point A be made to descend to the point E, its vertical speed from A to B would be less than one-half of what it would be from B to C; while its horizontal speed from C to D would be less than one-half of what it would be from D to E.

Force, or Power.

The mean force of each paddle in a wheel, is a line drawn at right angles to its centre, in the direction of its motion in the arc immersed.

EXAMPLE.—A vessel, either moored astern, or with her stem abutting against some immoveable object, for the purpose of testing her engine power, with whatever speed the wheel might move the motion of her floats, would have to be viewed as a simple unvarying force at right angles to their motion; but in wheels attached to a moving body, the case would be widely different. Here the forces would have to be viewed as propulsive and non-propulsive, according to the square of their surfaces in each direction, and the square of their velocities, to arrive at any right conclusion with regard to the power used in each case.

Fig. 4.

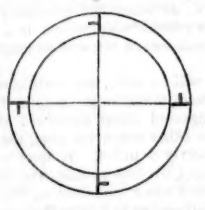
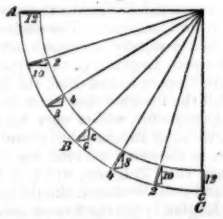


Fig. 5.



Let A, B, C, form a quarter of a paddle wheel, immersed to its centre, moving with a nominal velocity of 12; the power 12 would diminish in its different paces downwards, as 12, 10, 8, 6, 4, 2, 0, where it would cease, while its horizontal, or propulsive, action would begin at 0, and increase to 2, 4, 6, 8, 10, 12, where its maximum of speed would be to again diminish in the same proportion, whilst the vertical, or non-propulsive, power would increase in the same ratio.

For the better understanding what follows, it is here necessary to state some of the laws which govern the action of bodies, of different kinds, immersed in fluids.

All bodies having width, depth, and length, having, therefore, *inertiæ* to overcome, move in the proportion of the force applied, and the duration of that force. When the moving power is attached to the body to be moved, the motion of that body will be accelerated, until it arrives at the maximum of the power used, and continue at the same speed as long as the moving power continues to act at the same rate; but, on the cessation of such power, will progressively return to its former state of rest, from the retarding *inertiæ* of the fluid in which it moves. But superficies, having width and depth, but not length, yield at once to the force applied, and are incapable of acceleration with the same force, but cease moving with the suspension thereof; when no power is used, they are then governed by the fluid in which they are, whether in a state of rest or motion.

FOR EXAMPLE.—Suppose a vessel to have acquired a speed of 8 miles per hour, and when at that speed that both paddle wheels were at once detached from her engine power, the vessel will go on until her momentum is exhausted by the retarding *inertiæ* of the water, whilst the same cause—viz., the water—would keep the wheels in motion with a speed nearly equal to that of the water past the vessel. From the foregoing reasons, the following data naturally follow:—1. That a very nominal amount of power is required to make the floats keep pace with the speed of the water.—2. That the vertical speed not being with the water but through, it increases with the depth that the wheel may be immersed, to an amount not generally supposed.

It has been shown, under the head of speed, that the mean speed of the floats is about 11 parts of 12 of the speed of the periphery; and it is likewise generally known, that the average speed of sea-going steam-vessels is about 8 parts of 12—and, therefore, we shall use those numbers in the following calculations:—

And here I will put an extreme case, for the purpose of showing, in as clear a light as possible, where engine power is used economically, and where otherwise. I know it will be objected by some, that such a statement does not admit of proof, because steamers, being built for general purposes, could not be so operated on as to produce such results; yet, it by no means follows, that it would not be borne out in actual experiments, conducted properly.

I will here take leave to suppose a vessel 100 feet long and 15 wide, drawing 3 feet of water, with the shaft of her wheel at her water line, fitted with two 350-horse power engines, of the oscillating kind, working horizontally—that she was doing 8 miles per hour, and the periphery of her wheels running 12. A glance at the diagram (*fig.* 5) will show that the descending floats, until they form an angle of 45, would be non-propulsive; and from that point, until they form that angle in their ascent, would be propulsive; then, from that point, non-propulsive again, until out of the water—the propulsive and non-propulsive areas being the same, we will proceed to examine how the case stands:—

× amount of surface non-propulsive—speed.....	11 miles.
× amount ditto propulsive, 11—less 8—speed.....	3 „
Then, say, if 1 mile require 5 horse—	
11 will require 11, and 3 miles will require.....	3
11	3
121 velocity	9
5	5
605 horse-power, which, added to.....	45, gives 650, the power

used: so that the power lost would be 605 out of 650.

We will next consider the economy of engine-power, as it affects a sea-going steamer, under the most favourable circumstances. All vessels of this description, which have come under my notice, have one-sixth of the diameter of the wheel immersed. I will not stop here to inquire whether that is the best amount of dip or not; it is enough that 40 years' experience has sanctioned its use, and we will, therefore, in the following calculations, use it:—

To arrive at something approaching accuracy, I lay down one-half of a paddle wheel, of 18 feet diameter, fitted with floats of 18 inches deep, and taking the square presented to vertical and horizontal action as accurately as I could measure them in nine different stages in the section immersed, which I added together, and divided by 9, to give a mean, I found their measurement and speed to be as follows—taking the length of the float to be 6 feet:—

Surface opposed to horizontal pressure, 33 feet - speed of ditto, 3 miles.
Ditto opposed to vertical ditto, 13 feet— ditto 4½ miles.

Query.—If 60-horse power move 33 feet of surface 3 miles per hour, what power is required to move 13 feet 4½ miles per hour?

BY SINGLE PROPORTION.

As 33 feet : 60-horse power :: 13 feet
60
33) 780 (23 7-11 horse power
66
120
99
3)21
— 7-11
33

As 3 miles : 23 7-11 :: 4½
3-1×260-11
9-2
66) 2340 (35 5-11 horse-power required.
198
360
330
6) 30
— 5-11
66

BY COMPOUND PROPORTION.

Otherwise, 33 feet : 8 miles : 60-horse } 60 × 13 × 4½ = 3510.
13 „ : 4½ „ ×
99) 3510 (35 5-11 horse-power, as before.
297
540
495
45 (5-11
99

In this calculation, I have taken the action of the floats at the water line, but the excent of the evil does not end there: their action raises the surface of the water full 30 per cent. of the segment immersed before they break through—making the actual loss of engine-power full 40 per cent.

I believe, Sir, I have now arrived at the second step of the inquiry, and will next proceed to the object proposed in the beginning—viz.: Is the paddle wheel susceptible of any material improvement? Taking the above figures as an approximation to the truth, we find the result to be 40 per cent. lost, and that, out of that 40, 22½ is used in the lift.

The theory I build on the above data is, that if the power so lost can be used propulsively, the paddle wheel will become the most effective mode of propulsion which can be used, as it will make the engine-power, used profitably, 82½ per cent.—thus giving to the power used propulsively more than one-third. As for the downward pressure, it is not desirable to get rid of it, if it could be done, as the effect of that alone would make the wheels turn easier on their bearings—correct any tendency to list in the vessel, and increase her buoyancy in the water. This object can be attained by a fixed paddle, of a simple construction, combining economy with durability, which I shall feel most happy in proving to be the case, when I can find a party who will stand pledged with me to secure and carry out the same for our mutual benefit; and, I may add, that of steam navigation generally. Believe me to be, dear Sir, yours truly,

1, *Redcross-terrace, Redcross-street, Bristol, Jan. 5.* WM. BURGE.

P.S.—I have made the above as concise as possible, and have omitted several things connected therewith—only stating what I consider absolutely necessary to make myself clearly understood. Should you deem the above worthy a place in the *Mining Journal*, you will confer an obligation.

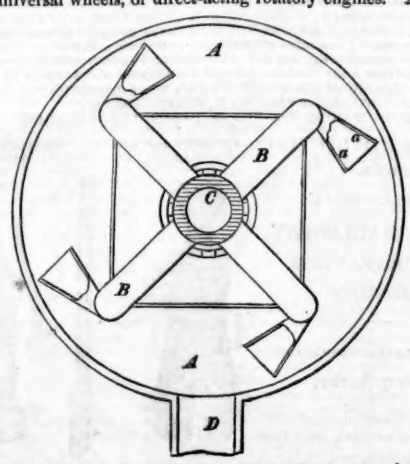
IMPROVED DIRECT-ACTING ROTATORY ENGINES.

[Specification of patent, dated 19th July, 1847, granted to Anthony Bernhard Baron Von Rathen, for certain universal wheels, or improved direct-acting rotatory engines, to be worked by steam, air, or any other elastic power.]

This specification sets forth the invention that has been for some months past promised to the scientific world as one that would effect an *entire revolution* in the steam-engine, and set at nought that admitted wonder of the world—the reciprocating steam-engine, the production of the immortal Watt. The invention, as set forth in this document, is based upon certain known principles, arising from the elastic power of certain fluids when condensed, or rarefied—for example, compressed-air or steam—the application of which is in a certain direction, and is in effect nothing more or less than another illustration of the power of steam, as exemplified by some of the ancient engineers, whose names must be familiar to all scientific men, as also the rude machines employed by them to exemplify the mode by which motive power might be obtained—as an example of this, we need only refer to the machine composed of a sphere of metal, containing water, which by heat was converted into steam, which, as it escaped along two bent arms, or pipes, attached or fixed to such sphere, imparted rotary motion thereto; or where the sphere was fixed, and the steam directed, so as to impinge against a moveable inclined surface, or series of plates, it receives rotatory motion, which was transmitted as required—the power obtained being in proportion to the pressure of the steam.

Now, the only apparent difference between this invention and the earliest engines, of which we have given only two examples, consists in placing the pipes, through which the steam, compressed air, or other elastic fluid, passes, in an air-tight box; and, by exhausting the air therefrom, it is computed by the inventor that the expansive force of the power employed, and its re-action upon the inclined sides of the exit pipes, will produce rotary motion of the shaft upon, or to, which such pipes are attached. That motion might be obtained is unquestionable; but, as an unlimited source of power, which the steam-engine, as a perfect machine, has always been considered, it is very much to be doubted whether the inventor can effect any more than that of the rude machines before-mentioned. Although the inventor has worded this document after the *tedious verbose* manner in vogue with some persons, yet the general character and essence of it may be obtained by the present succinct form, bearing in mind that the patentee therein sets forth, not merely the particular form and disposition of machinery exhibited by our illustrative diagram, but a variety of consequent modifications thereof, though confined to the same general principles and character. For the information of such of the readers of this Journal, as may require to go into the minutiæ, we may mention that this specification can be referred to at the Petty Bag Inrolment Office.

In the accompanying diagram is exhibited the form and construction of these universal wheels, or direct-acting rotatory engines. A A marks



an air-tight casing; B B, hollow arms, or pipes, fixed upon a hollow shaft, C, which is mounted in bearings; D D, conical-shaped vessels, fixed to the outer extremity of each of the pipes, B; D, an opening for exhausting the casing, A A. The following are the operations of this engine:—Steam, air, or any other elastic fluid, being allowed to pass along the pipes, B, will be discharged through D; and the expansive force and reaction thereof upon the inclined surfaces, *a a*, is intended to impart motion to the shaft, C; and a succession of pressure exerted upon each of these exit pipes produces continuous rotary motion. The claims, which are lengthy, are substantially for the application of steam, air, or other elastic fluid, to the arrangements therein set forth and described.

Patent-office and Designs Registry, 210, *Strand, Jan. 26.*

PROGRESS OF ATMOSPHERIC RAILWAYS—LAWES'S PATENT.—In the *Mining Journal* of June 6, 1846, we gave a brief notice of a proposed system of atmospheric propulsion, patented by Mr. Lawes, of Old Kent-road, and the City-road. It consists of a truly cylindrical tube, closed throughout, divided into sections of about two miles each—one end of each section being closed, the other open; in each of these sections is a truly-fitted piston, which we will suppose to be at the bottom, or closed end, of the tube; at the open end is a drum, around which a rope is wound by proper gearing; the action of this drum sets in motion another drum, the reverse way. The piston having arrived at the open end of the first section, a perfect vacuum is formed in the tube; and the piston being set free, the atmospheric pressure forces it down the tube with great velocity—of course, drawing the train attached; and, as one rope is wound up, the other is unwound. The patentee proposes to have stationary engines, of about 10-horse power, at every two mile section of tube, which he considers would be sufficient to raise the necessary power to drive heavy trains, at any required speed, every half hour. He proposes that the lines should be laid down on the natural surface of the ground on the unused portion of turnpike-roads, and working without any interruption to the usual traffic. The diameter of the tube would be about three feet; one foot in the same would drive 20 to 30 feet on the road; consequently 150 to 200 feet of tube, in one or more lengths, would drive a train one mile. The piston moves slowly, whilst the train would run with great velocity. The plan proposed for the formation of a company, is, in the first place, to raise, by subscription, sufficient to lay down two miles of railway—and thus truly test its capabilities; these subscribers to have the preference in the choice of shares, with a good bonus, should a company be formed; and the remainder to be submitted to the public. The cost of such a line, including propelling power, with all accessories complete, for driving a heavy train every half hour, is estimated at 2500*l.* per mile.

INSTITUTE OF MECHANICAL ENGINEERS.

The first annual meeting of the members of this institution was held at the theatre of the Philosophical Institute, Cannon-street, Birmingham, on Wednesday evening. There was a very large attendance of members and visitors present. Amongst others C. Beser, Esq., J. E. M'Connell, Esq., A. Slate, Esq., E. A. Cowper, Esq., B. Fothergill, Esq., Messrs. Henderson, C. Fox, Dubbs, Ramsbottom, Fowler, Clift, Middleton, Goodfellow, Peacock, Jackson, Cheshire, C. Cammel, T. M. Johnson, Mr. John Lord, agent to the Zealand Railway. Shortly after four o'clock,

J. E. M'CONNELL, Esq., in the absence of the president, took the chair, and opened the business by observing that, the present was the anniversary of the establishment of the institution, and he would content himself with referring to the report about to be read for the confirmation, he might say the more than realised hopes, of the most sanguine promoters of the institute. He was gratified to see so large a meeting, and regretted the unexpected absence of the president, George Stephenson, Esq.—The minutes of the previous meeting were then read by Mr. KINTREA, the secretary, which were confirmed.

The CHAIRMAN called upon Mr. Fothergill to read the report prepared by the council.—Mr. FOTHERGILL then read the report, from which the following is an extract:—"In presenting to the members a brief outline of the proceedings of the institution for the past year, the executive council have much pleasure and satisfaction at having it in their power to congratulate the members on the successful progress and prosperous condition of the institution, having by the great addition to its members, numbering 108 members; and four honorary members, as per list, and the varied and highly interesting business transacted, gained a standing scarcely to have been expected in so short a space of time. The desirableness and importance of founding a society such as this, was known to have been long and extensively felt by the engineering and mechanical profession in all parts of the kingdom; and it is not too much in venturing to say, that the best expectations of the active and zealous promoters of the institution have been fully realised, and a great amount of scientific and valuable information has been beneficially and mutually interchanged and diffused amongst the members. With these highly-gratifying and encouraging results, the council earnestly call upon the members and friends of the institution to renew their efforts, and to co-operate by every means in their power to promote its further rise and success; and they feel assured that by so doing a very short period will suffice to rank it amongst the first and most influential in the kingdom."—Mr. FOX moved the adoption of the report, which was seconded by Mr. Alderman THORNTON, and carried unanimously.

The CHAIRMAN then said, in connection with the report, he ought to state there had been a subject of considerable importance under the consideration of the council for some time past, but it was thought better to defer it until that general meeting. It had been considered, that in consequence of the scattered state of the members of the council, an additional number ought to be made to that body, so as to have all the great towns fully represented. As Manchester had two representatives at the council, London two, and Birmingham two, it was thought that there were districts in the north and east of England which should also be represented. According to their rules, however, they were required to make such proposal at their annual meeting; but, seeing the necessity of getting an additional number of members for such districts, the council had suggested the alteration. It was, however, quite open for the meeting to discuss the suggestion, and he should be happy to hear any remarks which gentlemen might have to make upon the subject. The recommendation of the council was then read, after which

Mr. SLATE, in a brief address, advocated an extension of the representative system, and concluded by moving, that the recommendation be adopted, and the council empowered to act accordingly. The resolution was seconded, and carried unanimously.—The CHAIRMAN then announced that the ballot for 26 new members and honorary members had just been closed, the result of which was, that those gentlemen had been re-elected. The other routine business having been gone through,

The CHAIRMAN introduced Mr. Alderman Thornton's new hydraulic jack, upon which Mr. THORNTON rose and read the following paper:—"The principle of the jack is the same as that of the hydraulic press, but not having been before applied to a lifting jack, it is thought that the present application of it will be useful for a variety of purposes. Its advantages are the ease and steadiness with which a great weight can be raised by one person, the facility with which the lowering of the weight can be regulated without labour; and from there being no circular motion of the handle, there can be no tendency in the jack to twist from the position in which it is placed; also, by the use of strong wrought-iron tubes for the cylinder and ram, the weight of the jack is less than those now known. This jack can be used in all cases where others are available, and in some where others are not so; for the motion of the lever being vertical instead of lateral, it can be used wherever there is a sufficient width to place it. With a jack of the size shown, one man can lift from 15 to 20 tons weight." Considerable discussion ensued upon the merits of the invention, in which the CHAIRMAN expressed his opinion favourably of it, as did also several other members.

The next paper read was one from Mr. FOTHERGILL, of which the following is a summary:—"A machine, such as is represented in sheets 1 and 2, was made for Mr. Evans, the contractor for the iron tubular-bridge, which is to carry the Chester and Holyhead Railway over the River Conway, at the town of that name. This machine is employed to perforate the plates for the bridge, and is at present adapted to punch such pitches only as that work requires—viz: 3 inches and 4 inches from centre to centre of rivet holes, with latitude for departing considerably from those (general) pitches in the lateral rows of the holes. This machine is constructed to perforate, at each stroke, a row of holes across a plate 3 ft. 5 in. broad; but, by employing a series of card-plates (similar to the cards used in the Jacquard loom), any number of punches may be put out of action at pleasure; and, by means of a blank card at the end of the series, the machine is put ont of action at a point where no obstacle is presented to the taking out of the perforated plate, and putting a blank plate in its stead. The operation of changing plates, weighing 6 or 7 cwts. each, is performed by half a dozen men in less than one minute, and whilst one plate is being punched, these men get another ready to put into the machine. As these machines take 11 to 12 strokes per minute, it follows that (with a 4-inch pitch) a 12-feet plate may be punched in less than four minutes, and consequently that (allowing one minute for changing) it may perforate 12 such plates per hour. Many of the plates in the bridge are 12 ft. long, 2 ft. 8 in. broad, and three-quarters of a inch thick, and are punched for rivets 1 inch in diameter. As there are but few engineering concerns where such a perforating machine as that at Conway could be employed more than an hour or two per day, it appears to me to be very desirable that ironmasters should have them, and that they should also have machines for straightening and bending plates; by these means the ironmasters would be enabled to supply their customers with plates in a fit state for being rivetted together. Were this system brought into practice engineers would turn their attention to adapt their work to the capabilities of the perforating machine, and thus great perfection, dispatch, and economy of construction would be the result. In sheet 3, is represented a machine (similar in principle to that already described), adapted to perforating paper and thin sheet metal, such as sieves and window blinds are made of, in which plain perforations, arranged in squares, may be made by a single row of punches, and perforations, arranged quincuncially, may also be made by a single row of punches, by giving to the plate a lateral alternating motion; but a double row of punches, arranged intermediately to each other, is preferable. Each of these arrangements admits of a great variety of fancy patterns by the application of the Jacquard principle. A large class of patterns may be produced by punches of various forms and sizes, which shall be so grouped together as to give to the work a columnar effect; and the range of this class may be extended by giving the plate a zig-zag or waved motion, and still further extended by combining it with the Jacquard. Another class of patterns may be produced by employing two distinct sets of punches, of different size or form, and with each set a Jacquard, to bring punches of the one or other set into action as required, and thus be made to produce representations of figures, landscapes, &c., at pleasure. A further variety of patterns might be produced by the introduction, at intervals, of punches containing set patterns—such as sprigs, flowers, &c.—and perforating the ground with small punches. The foregoing is but a brief description of the capabilities of the Jacquard perforating machine, which, in good hands, would be found to be nearly co-extensive with those of the Jacquard loom. In sheet 4, is represented a double-acting machine, for shearing (at one side), and punching (on the other); at the same time plates of iron, three-quarters of an inch in thickness, with holes 1½ in. in diameter, and to perform both processes to the extent of 18 in. from the edge of the plate."

Drawings of the invention were ordered to be printed and circulated amongst the members.

C. BESER, Esq., of Manchester, then read a valuable paper on the fitting-up of "Cylinders for Locomotive Engines, and a Description of a Machine for Boring them." The consideration of these important subjects was adjourned.

The members of the institute, to the number of about 100, dined together at the Queen's Hotel. J. E. M'CONNELL, Esq., presided, and Mr. A. SLATE officiated as vice-chairman, when the evening was spent with the utmost harmony.

An American projector proposes an electric telegraph from the Atlantic to the Pacific. It is already carried from the Atlantic to St. Louis, in the valley of the Mississippi. The distance from St. Louis to the Pacific is 2000 miles, and the estimate is that the line could be formed for $300,000.

When is iron like a bank note? When it's forged.—When is iron like a stone thrown into the air? When it's cast.—When is it like part of a public-house? When it's a bar. When would it do to make sausages of? When it's pig-iron.

LIABILITY OF RAILWAY COMPANIES FOR RETURNED PACKAGES.—An action was brought against the South-Eastern Railway Company, at the Southwark County Court, on Thursday last, to recover 7*l.* 5*s.*, the value of 41 empty cement casks, consigned by Messrs. Chalkland, of Tunbridge, to Mr. Wood, cement manufacturer, Rotherhithe, which had been lost, owing to alleged negligence of the company's servants. The company, by their regulations, undertook to re-convey empty packages, &c., free of expense, and the original transmission of the cement, and the resending of the empty casks to the station, and their reception by the company's servants, having been proved, Mr. Church, for the company, submitted that they were not answerable, or accountable, for the loss that had been sustained. They were not in the present case carriers for fee, or reward, and could only be considered as bailees of the goods, without reward, and, therefore, not liable for any loss, or damage; and notices to that effect appeared in their offices at every station. The goods were forwarded, to be left till called for, and no charge was made; and, therefore, it was clear that the company was not answerable. The notice expressly stated, that they would not be accountable for loss, or damage, of returned empty packages, nor for any goods left until called for, or to order, or left, or warehoused, for the convenience of the parties to whom they are consigned. The Judge said he was clearly of opinion, that in this case the company were not liable—they were in the position of bailees without reward, and with notice that they would not be liable—for he held that the plaintiff, knowing the goods were carried free, also knew the other fact; he should, therefore, give judgment for the defendant. Judgment entered for the defendant accordingly, with costs.

SOUTH DEVON ATMOSPHERIC LINE.—A correspondent of the *Devonport Telegraph*, who writes from Newton, says:—"I am happy to say, that the locomotive is entirely off the line between this and Exeter. The trains are despatched and arrive with the greatest regularity, and from the great traffic on the line there are now 16 or 17 trains daily. It is also stated to have been decided by the directors to run an express train, from Newton to Exeter, without any intermediate stoppages, the distance to be accomplished in 20 min.; but such is the power of this magnificent application of science, that there is no doubt it could be done without difficulty or danger in half the time. The arrival of the trains is looked at with much wonder by the sightseer, and the old locomotive is beginning to be looked at as an extinct race of by-gone generations."

CALEDONIAN RAILWAY.—A statement has appeared in several newspapers, that a considerable subsidence has taken place in some parts of the line. It has also been rumoured, that the Beattock incline has been found to present obstacles of a serious nature; and we think it likely that fifty other rumours of a similar character have been put in circulation. We can state, on the best authority, that these reports are entirely devoid of the slightest foundation. In a previous number, we explained, that the directors have deemed it proper, at this season, to make some improvements upon several parts of the line, to render it more complete and effective for traffic. In particular, they have resolved, before opening, to lay down a double instead of a single line of rails at the junction of the new portion with that in operation at Beattock. This work is now in progress, and will be completed in a very short time. At present, it is expected that the whole through line will be opened in the first week of next month.—*Scottish Railway Gazette.*

WATERFORD, WEXFORD, WICKLOW, AND DUBLIN RAILWAY.—The works, both at Killiney and at Bray Head, are proceeding as rapidly as the nature of the cuttings will admit. Mr. Brunel minutely examined them during his recent visit, and expressed himself well pleased. The deposit of 10 per cent. on the 250,000*l.* capital subscribed to this company by the South Wales, was lodged in the accountant-general's office in Government 3½ per cents., amounting to 21,631*l.*, the deposit money only amounting to 18,750*l.* The bill to legalise this subscription, and effect other objects, is one of the few bills promoted by Irish companies this year.

DEATH OF A "NAVVY."—On Friday last, one of the men employed on the Great Northern Railway, commonly called "Navvies," expired. He was only about 18 years of age, and was much respected by his fellow-workmen. On Sunday, about 110 of his former companions paid their last earthly mark of respect by following his body to the grave: several hundred of the inhabitants also assembled to witness the ceremony. Before the corpse, walked three of the deceased's companions, each carrying one of his work-tools (with which they covered his remains after the funeral service had been read), and after it followed in procession above 100, attired in their short white smocks and high-laced boots, and each having a white rosette on the side of his hat. The orderly manner in which the men conducted themselves was the theme of general remark.

GEOLOGICAL DISTRIBUTION OF THE ELEMENTS OF THE MINERAL KINGDOM, IN RELATION TO THE USES OF MANKIND.—The theatre of the Westminster Literary and Scientific Institution was unusually well attended, on Thursday week, to hear a lecture on this subject by the very Rev. the Dean of Westminster. The chair was taken by the Rev. H. H. MILMAN, and the lecturer was supported by Dr. Mantell, and many other distinguished visitors.—Dr. BUCKLAND, who was most cordially received, commenced his observations, by expressing the gratification he felt at responding to the call of the governors of that institution, to open the present course of lectures. The mass of mankind were ignorant of the materials of which this earth was composed, and of the profitable amount to which the mineral elements might be turned. The structure of the earth was of a most marvellous character. It was the perfect workmanship of the Creator himself, and deserving of the study of the highest intelligence. The ancient cosmogonies were of a chimerical nature, and it was not till a short time previous to the present century that this science began to be placed by inductive reasoning on sound principles. His present object was not to consider the geological structure of the earth, or the stores treasured up in the deep foundations of the earth. He would first mention a provision of elementary substances for the creation of water, and the composition of the atmosphere. He briefly described the relative affinities between oxygen and hydrogen, and their uses to mankind. How charcoal entered into the numerous substances of animal and vegetable life—its strange transformations by innumerable natural processes which were constantly going forward, and its benefit to man, was next dwelt upon. That element, as well as others, had a duty to perform, and the duty was performed much better than those which devolved upon mankind. There was another element which entered very largely into human bodies, which was not heard of till about 50 years ago—he meant phosphorus. Would any person conceive that the largest ingredient in cheese was phosphorus? The cheese was made from milk, and from that bone was made, and bones made the best manure. There was phosphorus, and lime, and iron, present in the blood of every animal; and in every material formed at the creation there was a certain portion of phosphorous and earthy materials. There were now 54 elements, and not four, as they used to be taught at school. The affinities of these elements, their mutual operations and combinations in nature, and how they all concurred for the good of the human race, was dwelt upon at some length, and formed the subject of numerous useful and popular illustrations. Many of these things were not visible, and yet their existence could be demonstrated. That taught them a fine moral lesson, and he would affirm that he was not a philosopher who would only believe what he could see. There was a providence in the original creation of these materials. They were laid up in magazines till they were wanted, and many of them existed for ages upon ages, before they entered into combination for the use of man. There was an anticipated preparation of elements, which were all wanted to make up the body of man, and of the animals and vegetables upon which he subsisted; and the application of these elements in their combinations and transformations in nature and in civilised life, for the convenience, the enjoyments, and the luxuries of man, were almost infinite. The elements were the basis of all civilization. The question of the metals was a very large one, and he would not enter upon it at that late hour. They were dispersed with that liberality commensurate with the importance of the functions for which they were designed. In the course of his address he had shown them that this collocation of matter was so disposed and arranged, that it afforded the strongest arguments to point out a final cause; and it would enable them to deduce some of the valuable moral results, upon which they had done him the honour to request him to address them that evening. (Cheers.) An ample and delightful illustration of many principles of geological science would be found in the museum, Craig's-court, Charing-cross. There were models of coal-fields and illustrations of mineralisation, and of the application to the arts of many of the substances of which he had been speaking. These were to be seen every day of the week, except Sunday, for nothing—and he would conclude by saying, that he thought he could not offer them a more attractive invitation than that.

ALLEGED "TRUCK" CASE.—At the Merthyr County Court, a case—Lewis *v.* Davies and others—was heard, which possesses some interest. The plaintiff is a grocer, residing at Lantwit Vardre, and the defendants are colliers working at that colliery, the property of Konnor Powell, Esq., Gaer, Newport. The plaintiffs claimed from the defendants, who were five or six in number, sums varying from 1*l.* 10*s.* to 9*l.*, for goods sold and delivered. These cases had been adjourned from the last court, at which Mr. J. G. H. Owen appeared for defendants, but who was, on this occasion, unable to attend through illness. The defendants endeavoured to show that their cases were within the Truck Act, but in that they utterly failed. About 20 witnesses (colliers and their wives) were examined, who swore that Mr. Powell did not pay them their wages in money, but in goods from the plaintiff's shop, and that Mr. Powell was answerable to Mr. Lewis, and not they. They further swore, that the plaintiff allowed Mr. Powell 10*l.* per cent., and Mr. Francis (his agent) 5*l.* per annum out of their wages, for permitting him to sell those goods, and this information, they said, had been given them by Mr. Lewis himself; Mr. Francis and Mr. Lewis positively denied such a statement. By that account, Mr. Francis would receive 20*l.*, and Mr. Powell 40*l.*, which in a year would make the handsome sum of 720*l.* Such a monstrously absurd statement could not be believed, and his Honour gave judgment in favour of the plaintiff.

EAST WHEAL FRIENDSHIP MINING COMPANY,
IN THE PARISHES OF PETER-TAVY AND MARY-TAVY, DEVON.

TO BE WORKED ON THE COST-BOOK PRINCIPLE,

"Which exempts shareholders from any liability beyond the amount of their share, and enables them to withdraw at any time, and demand their portion of the value of the mine, by giving notice to the Secretary to that effect."

UNDER THE INSPECTION OF MR. RICHARD EDWARDS,
Manager of Wheal Franco, Plymouth Wheal Yeoland, &c. &c. &c.

TREASURER—WILLIAM EALES, Esq., 159, Fenchurch-street.

A Board of Directors will be chosen at the First Meeting of the Shareholders.

EAST WHEAL FRIENDSHIP is a COPPER MINE, lying next adjacent to the well-known Wheal Friendship, which has been a most profitable investment—returning upwards of £400,000 to the adventurers, and is at the present time paying large dividends. The lodes are a continuation, running through East Wheal Friendship, for which see the report, furnished by gentlemen, whose practical experience and ability in mining operations are undisputed. 37

REPORT OF J. H. HITCHINS, ESQ.
(Of the Devon Great Consols.)

At the mine, I met Captains Phillips and Dunn, and surveyed the whole of the sett and the adjoining property, with a view to ascertain how much of the latter it will be desirable for the company to obtain, in addition to what they already are in possession of. It appears from the measurement this day made, to ascertain the extent of the company's sett, that it is in length, from one extreme point to the other, lineally, on the course of the lode, about 600 fms., and in width, about 250—that is the eastern side of the River Tavy; on the western side of the river, the sett is less comprehensive; the length of it being about 100 fms., and the width about 50, on the underlay of the lode. In viewing the sett generally, I have only to remark, that I consider it one possessing advantages of more than ordinary character, and as a mining investment, as good as any can be. The lode at present in the adit end, now driving east of the River Tavy, being the large masterly one of Wheal Friendship Mine, which has proved so profitable to the adventurers—from 4 to 5 ft. wide, intermixed throughout with gossan, mundic, copper, peach, prian, and all the other characteristics comprised in the term, kindly.

REPORT OF CAPTAIN RICHARD EDWARDS.
(Of Wheal Franco, Plymouth Wheal Yeoland.)

East Wheal Friendship, I find, is situated on the banks of the River Tavy, in the parishes of Mary-Tavy, and Peter-Tavy. It is east, on the course of the lodes of the Great Wheal Friendship, and the Eastern boundary of that mine is the western of this. (*Vide Plan.*) The strata, with the exception of hard grey rock, is killas, and the granite is close on the eastern boundary. Three lodes have been discovered, although they are not now open; and a shaft has been sunk on the middle one, on the eastern side of the River Tavy, on a patch of hard rock, from which some good ore was taken; and the situation of the mine is favourable to the production of copper, being near the junction of the granite and killas, and on the run or course of the Wheal Friendship lodes. It is supposed, the hard rock will disappear, as the workings are extended downwards. On the western side of the river, on the course of the middle lode, there is a very high precipice of this same hard grey rock; but, on the western side, between it and the Wheal Friendship boundaries, there is a change of ground; and, I think, if the lode were opened here, it is very probable that it would be productive. I call this part of the sett a good speculation, particularly as there is an adit already driven in at the base of the precipice, which, I understand, has reached nearly to the opposite side of the hard rock. About 80 fathoms to the north of the middle lode, there is said to be a large lode, producing stones of copper ore near the surface; this is to the north of the hard ground, and in a situation that would warrant being prosecuted.—*Horrabridge, January* 18, 1848.

REPORT OF CAPTAIN THOMAS DUNN.
(Of East Wheal Friendship.)

We first commenced driving the adit level east, when we cut a large lode, with fine stones of yellow copper ore; we then sunk an engine shaft to the depth of 50 fathoms, through a very promising lode, 10 feet wide. This lode was thought by all mining agents, to be one of the best they ever saw—yielding not less than 10 tons of mundic, tin, and copper, mixed, to the fathom. In the 20 feet fathom, the lode divided—one part going down right, the other underlaying north, about 2 feet in the fathom. I should now recommend sinking the engine-shaft deeper, when I have every reason to believe that we shall cut the Wheal Friendship lode. You can see how much we have sunk and driven by the plan sent. I can only say, it is a very good investment, and I hope you will save me a few shares. I have sent specimens (which may be seen at the office), from the lode; and there is, at least, one ton of good ore at the surface.—*Tavistock, Jan* 6.

N.B.—The foregoing reports are condensed, but the originals can be seen at the office.

East Wheal Friendship is divided into 1024 shares, depost 3*l.* per share—2*l.* of which goes for the purchase of the sett, and for work done (vide plan); and 1*l.* into the hands of the treasurer, towards the working. Certificates, containing five shares each, will be issued to each shareholder, which must be signed by the treasurer and secretary, and no shares will be retransferred, without the delivery of the said certificates, bearing the re-indorsement of the holder. The books of the company will, at all reasonable times, be open to the inspection of the shareholders.

Application for the remaining shares to be made either to the secretary, at the office of the company, No. 48, Threadneedle-street, London; the treasurer, William Eales, Esq., 159, Fenchurch-street; Mr. James Lane, mining share agent, 75, Old Broad-street; the solicitor, C. V. Bridgeman, Esq., Tavistock; or through any respectable broker.—Reports from other mining agents can be seen at the office.

TO ENGINEERS, RAILWAY AND STEAM-BOAT COMPANIES,
AND THE OWNERS OF STEAM-ENGINES IN GENERAL.

W. & C. MATHER beg to call the attention of the above parties to their 38
PATENT ELASTIC METALLIC PISTON.

From the great satisfaction it has already given, they can, with confidence, recommend it. The following are some of its excellent properties:—

1. The great, equable, and mild elasticity: its being perfectly cylindrical and self-adjusting—thereby enabling it to yield, with the least possible friction, to any inaccuracies of the cylinder, whether oval or taper.

2. Its extreme simplicity and lightness—the packing consisting of ONLY TWO PIECES OF METAL, having vertical and horizontal elasticity in due and proper proportion, independent of each other—the horizontal elasticity being also independent of SCREWING DOWN THE JUNK RING OR COVER.

3. It takes the least possible space; and is, therefore, well adapted for air and water pumps.

The above patent was unsuccessfully opposed by Mr. Goodfellow, the patentee of a piston, having *three angular rings*, of a bevil form.

The Solicitor-General conceived that there was not the slightest similarity between them, as may be seen from the subjoined letter from Mr. Carpmael, through whom the patent was taken.

W. and C. M. can refer to upwards of 100, made since the date of the patent (April, 1846), each of which is giving entire satisfaction. They beg to call attention to the fact, that, in a number of cases, they have replaced those made of *three annular rings of the bevil form*, a description of which appeared in the *Mining Journal* of Saturday, October 2, 1847.

[LETTER REFERRED TO.] *April* 2, 1846.

DEAR SIRS,—Mr. Solicitor-General took the hearing in your patent yesterday, at the Privy Council, and decided that the invention did not *interfere;* we are, therefore proceeding with the patent. We are, your obedient servants,

Messrs. Mather, POOLE & CARPMAEL.

The object of publishing the above letter, is to convince parties wishing to use W. and C. Mather's piston, that they have nothing to fear from the caution which accompanied the advertisement referred to, or the unfounded reports which are industriously circulated from the same quarter.

Locomotive and other pistons guaranteed for *twelve months.*
Salford Iron Works, Manchester, Sept., 1847.

PATENT KAMPTULICON (OR CAOUTCHOUC AND CORK) MATERIAL.

SCALE OF PRICES. 39

Thickness in inches.	Wght. of Material per square yard, compared with wood.	Price per square yard.	Purposes to which the Material may be applied.
1-16	,,	2*s.*	Felt for Sheathing under Copper, and in destroying galvanic action between the Copper and Iron—also, for Telegraph, as a perfect non-conductor *used by Electric Telegraph, Strand.*
1-8	,,	3*s.*	For placing under Carpets, and as a Floor Cloth for Stairs, Offices, Aisles of Churches, to deaden sound, and prevent noxious effluvia from vaults beneath—See *Passage to Lord Chamberlain's Office, House of Lords.*
1-4	9 lbs., or one-third the weight of oak.	4*s.* 6*d.*	For Railway Carriages, Buffers, Shields, &c., and to place between Rails and Sleepers, *Joints of Iron Bridges,* and to use, in all cases, where it is desirable *to destroy vibration, and obviate the effects of concussion—used by the South-Western Railway, &c.*
1-2	17 lbs., or ditto	10*s.*	Lining for Floors of Carriages, Horse Boxes, and covering Walls of Riding-Houses, *as at the Castle, Windsor.*
3-4	27 lbs., or ditto	12*s.*	Life Boats and other Shipping purposes—*used by Mr. Ratsey, of Cowes, on the Ganymede and Gondola, of the Royal Victoria Yacht Club, &c.*
1	36 lbs., or ditto	16*s.* 6*d.*	Lining Rooms and Floors of Lunatic Asylums, *as at Bethlem Hospital, Northampton, &c.*

6 For Lining Iron Men-of-War, to ameliorate the effects of Cannon Shot, by retaining the Splinters; and by the Holes simultaneously closing, the Water is kept out, as *proved at the Arsenal, Woolwich.*

N.B.—Felt for the Inner Soles of Boots and Shoes, at 3*s.* per dozen pairs. Hoof Protectors, lined with Gutta Percha for diseased feet of horses, 2*s.* 6*d.* per pair. Elastic Putty, for preventing Cabin Windows, *Skylights,* &c., being broken by concussion, hailstorms, &c.* Life Boats of Iron Kamptulicon, 30*s.* per foot.

GEORGE WALTER, Co-Proprietor and Manager.
FACTORY, GREENWICH-ROAD, where all orders are requested to be sent.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.

J. MURDOCH (successor and late assistant to Mr. Hebert)
Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain 40
REFERENCE TO A CLASSIFIED LIST OF PATENTS,
(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular

MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG. 41

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, 51, St. Mary Axe, London.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.

The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS ON DEBENTURES, in sums of not less than £500, for three or five years—bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol. 42

Tenders to be addressed to this office. Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order of the directors, D. RANKINE, Treasurer.
Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

CALEDONIAN RAILWAY.—The HALF-YEARLY

GENERAL MEETING of shareholders of the CALEDONIAN RAILWAY COMPANY, will be HELD in Gibb's Royal Hotel, Edinburgh, on Friday, the 25th day of Feb., 1848, at One o'clock precisely, for the purpose of receiving a report from the directors, and on the general business of the company. 43

Immediately after the business of the company at such half-yearly meeting shall be over, a Special General Meeting of the said company will be held, at the same place, for the purpose—

1st. Of submitting to the proprietors, for their consideration and approval, the drafts of the following bills, introduced into Parliament in the present session—viz.:

A Bill to enable the Scottish Central Railway Company to lease their undertaking to the Caledonian, Lancaster, and Carlisle, and London and North-Western Railway Companies.

A Bill to effectuate the sale of the Wishaw and Coltness Railway to the Caledonian Railway Company.

A Bill to enable the Caledonian Railway Company to improve the Glasgow, Garnkirk, and Coatbridge, the Clydesdale Junction, and the Wishaw and Coltness Railways, and to make branch railways connecting the two last-named lines.

A Bill to enable the Caledonian Railway Company to extend their railway across the River Clyde, at Glasgow, and to form a station in that city.

2d. Of authorising the raising of a further sum of money on mortgage or bond, under the powers of the following Acts of Parliament—viz:—

"The Caledonian Railway (Glasgow, Garnkirk, and Coatbridge Branch) Act," 1846.
"The Caledonian Railway (Carlisle Deviation) Act," 1846.
"The Caledonian Railway (Glasgow Termini and Branches) Act," 1846.
"The Caledonian Railway (Clydesdale Junction Railway Deviations) Act," 1846.

And, 3d. Of considering a motion, of which special notice was given by Sir Andrew Agnew, Bart., at the general meeting of 31st August, 1847, "That no work be done on the Sabbath-day on this railway."

J. J. H. JOHNSTONE, Chairman.
J. W. CODDINGTON, Secretary.

The register of transfers will be closed from the 12th to the 25th February next, both days inclusive. J. W. CODDINGTON, Secretary.
122, Princes-street, Edinburgh, Jan. 26, 1848.

CAMERON'S COALBROOK STEAM COAL AND SWANSEA AND LOUGHOR RAILWAY COMPANY.

Regis'ered and Incorporated by 9 *and* 10 *Victoria, cap.* 401. 44

An EXTRAORDINARY GENERAL MEETING of the proprietors of this company will be HELD at their offices, 2, Moorgate-street, London, on Monday, the 31st day of Jan. inst., at Twelve for One o'clock precisely, to declare a dividend for the half-year ending on the 31st December last.

The same meeting will thereafter be made special, to receive the report of the directors with reference to the company's railway, pursuant to the provisions of the Acts of Parliament relative thereto.

The transfer books will be closed from the 20th until the 31st inst. inclusive, preparatory to the above-named dividend. By order of the board of directors,
2, Moorgate-street, London, Jan. 15, 1848. A. C. HOWDEN, Secretary.

SWANSEA DOCK COMPANY.—Notice is hereby given, that

the SECOND ORDINARY MEETING of the shareholders of this company will be HELD on Monday, the 31st day of January inst., at Ten o'clock forenoon, at the Castle Hotel, Swansea, for the purpose of transacting the general business of the company, and of making the necessary arrangements for adjusting all existing differences in and connected with the company and its affairs. By order of the board of directors,
A. C. HOWDEN, Secretary. 45
Company's Offices, 3, Lothbury, London, Jan. 15, 1848.

JOWETT'S PATENT HYDRAULIC TELEGRAPH.

OFFICES—No. 17, WELLINGTON-STREET, STRAND.
(Adjoining the *Morning Post* and *Court Journal*.)

PRELIMINARY ANNOUNCEMENT. 46

In the present important age of mechanical invention and advancement in the various branches of science, probably one of the most prominent production of fertile genius is that of instantaneous correspondence by telegraphic means upon railroads, no matter how far distant the transit. Telegraphic communication by electric machinery has already exhibited, upon numerous lines of locomotive traffic, the great advantages derived by the public through the medium of its powerful agency. But, successful as the telegraph mode of correspondence by electric aid may be considered, still greater and far more effective results will be secured to the public by Jowett's Patent Hydraulic Telegraph. The patentee, in the present limited detail, merely claims public attention to the following items in the way of superiority over the electric telegraph:—1. The economy in the construction of the hydraulic telegraph will be, at least, a saving of two-thirds, compared with the outlay required by the electric, independently of the considerable increase of speed, and the results far more decisive and distinct.—2. No expense whatever (after the first amount for construction) will be necessary to provide for the continuous working of the hydraulic telegraph, it being beyond the possibility of doubt that its action can be deranged, nor can any atmospheric changes interfere with, or affect, the success of its operations.—3. No physical impediment can compete with the laying down and the perpetual use of the hydraulic telegraph—neither height, depth, sinuosity, nor distance opposing in the slightest degree in perfect action. Detailed printed particulars are in preparation. In the meantime the patentee may be seen daily, from Eleven to Three, at the offices, 17, Wellington-street, Strand, where the models and plans are open to the inspection of the public.

ATMOSPHERIC TRACTION—LAWES'S PATENT.—

A TRIAL of this SYSTEM will be MADE on the GRAND JUNCTION CANAL, by public subscription. The engineer contractor for the work will guarantee the result. Subscribers will be benefitted 20 times the amount of their subscriptions, and there is no doubt but that it will very soon be universally adopted on canals, as well as on railways. Drawings and descriptions of the plan, with full information, may be had, by post or otherwise, at 32, City-road, London.—A 20-horse power model works daily, from Twelve to One, Canal-bridge, Old Kent-road. 47

S. W. SILVER & CO., CLOTHIERS, NAVAL, MILITARY,

and GENERAL OUTFITTERS and CONTRACTORS, respectfully acquaint the public, that they have completed the alterations at their warehouses, 66 and 67, CORNHILL, which enables them to concentrate and exhibit all the requirements of an OUTFIT. Being the manufacturers (with experienced managers) of the chief and most expensive portions of OUTFITS, they are enabled to produce and render them at WHOLESALE PRICES; thus preventing MILITARY and NAVAL OFFICERS, CADETS, and PASSENGERS generally, sacrificing the usual intermediate profits. LADIES' OUTFITS (which are under the management of females) on similar terms. 48

SILVER and CO. having a correspondent in nearly every ENGLISH COLONY, their customers may at all times avail themselves of their assistance. SILVER and CO. pack and ship their customers' outfits, clear and warehouse their baggage homewards, procure and give SHIP-SAILING information, outwards or homewards, without receiving a commission for such business. *Moreover, they do not allow the too usual commission to persons who introduce customers to them,* that purchasers may derive every advantage. For example, individuals who are about to leave for India are generally inundated with applications and lists from outfitters, who obtain the name and address of the party going abroad from persons to whom they pay (if they supply the outfit) so large a commission for the information, as to materially increase the amount of the outfit. Now, SILVER and CO. never forward a list of necessaries to any one, unless directed to do so by the party (or friend) going abroad. Thus SILVER and Co's prices are not burthened with commission, because all recommendations to apply to them are pure and disinterested.

THE OUTFITTING WHOLESALE and RETAIL CLOTHING DEPARTMENTS, &c., are at 66 and 67, CORNHILL, and at LIVERPOOL. The SHIRT DEPARTMENT, for home use, is at No. 10, CORNHILL. The WORKSHOPS for Clothing, at 4½, Bishopsgate-street, Within; for SHIRTS and CABIN FURNITURE, at 33 and 34, Nassau-place, Commercial-road; and for SHIRTS, STAYS, BRACES, &c., at LANDPORT, near Portsmouth.

N.B.—Every description of clothing for male and female emigrants.

THE MINING DISTRICT.—We regret to state that, in consequence of the inflammatory addresses of some itinerant Chartists connected with the National Association of United Trades, a somewhat uneasy feeling has begun to manifest itself among the miners in the district of South Staffordshire; but, in consequence of the timely precaution of the magistrates, assisted by the military power, there is reason to believe that, beyond a casual instance of violence, no proceedings of a serious character are likely to ensue. The first ebullition of bad feeling—which, by the way, is directly traceable to a meeting previously held in the neighbourhood—occurred on the morning of our last publication, at the works of Messrs. Cochrane and Geach, situated at Woodside, near Dudley; and it is a fact, remarkably suggestive of the chivalry of democracy (alternately fomented and depressed by the leading members of the Liberal party), that a mob of 40 men were satisfied with assaulting one female and threatening another. The particulars of this invasion are fully detailed in our Dudley police intelligence, from which it will also be observed, that on Friday morning, a mob of 100 colliers assembled at the works of Messrs. Malins and Rawlinson, at Shut End, in the parish of Kingswinford; but, beyond attempting to induce the men to desist from work, they proceeded to no acts of violence. On Friday afternoon a large meeting was held at Commonside, when, after hearing the addresses of the two firebrands connected with the trades' union, the men resolved unanimously to continue on the strike. Fortunately, for the sake of order and the peace of the district, a body of police was in the immediate neighbourhood, and ready at a moment's notice was a detachment of dragoons, who are billetted in Dudley. The misguided men, who in thus banding together are striving to emulate the Anti-Corn-Law League, and are pursuing a course not an atom more reprehensible than that which the members of the league have trod before them, are in the meantime using every private effort to advance their plans, and threatening notices have in various instances been posted in the vicinity of the collieries, by men who have not the courage to act openly. On Saturday morning a notice was posted on the Willingsworth Colliery, at Tipton—"If you go to work your life will be taken; blood will be spilt;" and, at Darlaston, similar threats have been used to the men in the employment of Messrs. Bills and Mills. In the meantime several of the disaffected and riotously-disposed have been committed for trial, and notice has been given by the magistrates, warning the colliers and others to refrain from breaches of the peace, and expressing a determination on the part of the authorities to afford every protection to those who are willing to work, and at the same time to punish, with the utmost severity, all persons who commit any outrage, or disturb the peace of the neighbourhood.—*Birmingham Advertiser.*

UNION BANK OF AUSTRALIA, 38, Old Broad-street.—

The directors having this day declared a DIVIDEND of THREE PER CENT. for the half-year, upon the entire paid-up capital of the Bank, free of income tax, PAYABLE on the 7th of February next—Notice is hereby given, that the TRANSFER BOOKS will be CLOSED from the 25th inst. until that date. By order of the board, 49
London, Jan. 24, 1848. SAMUEL JACKSON, Secretary.

STRONG MIXING PIG-IRON.—The YSTALYFERA

IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:— 50

"It greatly exceeds, in *strength,* in *deflective* powers, and capacity to resist *impact,* any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness,* or *elasticity,* which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel.*"

Address THE YSTALYFERA IRON COMPANY,
Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS.

DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath. 51
Dated June 22, 1847.

PATENT METALLIC LAVA—FOR FOOT PAVEMENT,

FLOORING, COVERING OF ARCHES, TERRACES, VIADUCTS, TUNNELS FOR RAILWAYS, &c.

MANUFACTURED ONLY BY ORSI AND ARMANI.

OFFICES—6, *GUILDHALL-CHAMBERS, BASINGHALL-STREET.* 52
WORKS—*(CUBITT'S WHARF) MILLWALL, POPLAR.*

TO RAILWAY ENGINEERS, CONTRACTORS, AND OTHERS.—

The ADVERTISER having obtained her Majesty's Letters Patent for an IRON TRUSS BRIDGE, peculiarly adapted, from its great strength and economy, for RAILROADS, is ready to TREAT with such companies, and other persons, as may feel disposed to adopt it. This bridge has been put up in Washington, and two of them (one of 70 feet span, weighing 13 tons) have been erected on the line of the New York and Harlem Railway; they are highly approved of by the directors, and several other companies have, in consequence, expressed their intention of adopting it. 53

A model can be seen, and further particulars given, either personally or by letter, on application to Mr. S. Moulton, care of the Editor of the *Mining Journal,* 26, Fleet-street.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

W. BROTHERTON AND CO.'S
PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY. 54

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES,

RAILWAY CRANES, FIRE-ENGINES, GAS, &c.
PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION. 55

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c.

VULCANISED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS,

TUBES FOR STEAM, GAS, AND OTHER PURPOSES,
ALL SORTS OF GAS FITTINGS. 56

THE BIRMINGHAM PATENT IRON TUBE COMPANY,

42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER and GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.
WORKS—SMETHWICK, STAFFORDSHIRE.
LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.

IMPROVED LIFTING JACKS,

MANUFACTURED BY

W. AND J. GALLOWAY,

PATENT RIVET WORKS,

MANCHESTER.

IMPROVED RATCHET JACK.

HALET'S PATENT LIFTING JACK.

57

*** The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

THE PATENT OFFICE AND DESIGNS REGISTRY,

No. 210, *STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees. 58

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY,

26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament. 59

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. [*January* 29, 1848.

*** It will at all times save much delay and inconvenience, if communications are directed simply To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And POST-OFFICE ORDERS, &c., must be made payable to WILLIAM SALMON MANSELL as acting for the proprietors.